THE RURAL-URBAN FRINGE

A Study of Adjustment to Residence Location

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UNIVERSITY OF OREGON MONOGRAPHS

Studies in Sociology
No. 1. Nov. 1953
Published by University of Oregon
Oregon State System of Higher Education
Eugene, Oregon

PREFACE

AMONG the traditional freedoms of American society are freedom of movement and freedom of location. For the highly mobile American family, freedom of location means freedom of residence selection within a narrow range hedged in by scarcity of rental units and suitable building sites, by zoning ordinances and building codes, and by building and occupancy restrictions, as well as by less subtle forms of social pressure. But within this narrow field, sometimes in a repetitive fashion which continues throughout the family cycle, choice takes place independently of authoritarian directive, paternalistic counsel, or rational basis for procedure. By what process this selection takes place, in terms of what preferences, whims, or antipathies, and at what costs in money, frustration, and disappointment, we do not know. The study reported here is an exploratory attempt to gain insight into this important but obscure aspect of family life.

The rural-urban fringe, that area of interpenetrating rural and urban land uses peripheral to the modern city, is today the most rapidly growing area of residence. In many ways it is the most interesting of such areas. Here is a dynamic population mass seeking to adjust to a habitat that is rural yet urban, by techniques which are neither rural nor urban. As producers, as consumers, as functional members of the great urban division-of-labor complex, fringe dwellers are organized around and symbiotically integrated with the population of the urban centers; yet, as citizens, as social beings, as families, they are not of the city. Their habitat reflects in its discord of land uses the flux of their culture and the inconsistencies of their efforts to combine rural and urban ways of life. The mutually contradictory elements of these two patterns of adjustment to habitat, the clash of rural nostalgias and urban appetites, tends to frustrate the idealized goal. Privacy becomes isolation, space becomes restriction.

In the fringe area mobility rates are high. Population flows to and from the city and circulates through the fringe at an unknown rate. In the accompanying process of selection, adjustment, and readjustment, there must be in the population at any given moment a wide range of reactions to life in the fringe. This study is an attempt to measure these reactions and the factors associated with them as they existed in February 1949 in the fringe area shared by Eugene and Springfield, Oregon.

How do families adjust to life in the fringe? What are the problems, the frustrations, and the satisfactions of fringe residence location? What are the characteristics of those individuals highly favorable to fringe lo-

cation as contrasted with those who yearn for urban residences? The answers this study provides are far from conclusive. There are no large coefficients of correlation, the statistical procedure is more simple than impressive, more questions are asked than answered. Perhaps these imperfections are not crucial in the exploratory phases of inquiry; most certainly they will be remedied by those who pursue these questions in the future.

It is impossible to acknowledge all those who have contributed to or influenced this study. Professor George A. Lundberg as an inspiring teacher and ceaseless proponent of quantitative analysis did much to stimulate my interest in social research. Professor Calvin F. Schmid not only made helpful suggestions in relation to the study itself but is remembered gratefully for his friendly guidance and encouragement since my days as a college freshman. Although Dr. Jesse F. Steiner took no direct part in the project, he more than anyone else aroused my interest in human ecology and has been a consistent source of encouragement.

Not to be overlooked are the students who aided in field work and related problems. Without them the study would never have been completed. Particularly important in their roles as field supervisors were Robert B. Brooks, Jack W. Broome, Denis F. Johnston, Michael P. Mitchell, William C. Nutting, and Andrew L. Wade. Finally I want to acknowledge the typing and mimeographing service provided by the Department of Sociology at the University of Oregon and to thank all those connected with the department for their suggestions and encouragement.

All maps were drawn by the writer.

W. T. M.

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Chapter I

THE FRINGE AREA: INTRODUCTION AND INVENTORY

THIS is a report on the adjustment of people to residence location in what has come to be known as the rural-urban fringe. Sprawling out beyond the political limits of the modern city this area of intermingling rural and urban land uses presents a problem and a challenge to real-estate analysts and promoters, to urban as well as county and township planners, to city fathers and rural government officials, to tax commissioners, and to social scientists. To the real-estate promoter the fringe is an area to be exploited, with the planning and profits of the conservative investor threatened by the spreading blight of the landshark's wildcat subdividing, jerry-built homes, and inconsistent building and occupancy restrictions.[1] To land-use planners it is an area of rapid population growth, unrestricted subdivision, antagonistic land uses, and spreading rural slums. To city officials it represents a sizable proportion of their daytime population escaping tax and legal jurisdiction; to county officials it is a new mass population troubled by the conflicts of rural nostalgias and urban appetites[2] and straining an antiquated governmental structure to the breaking point.

To the social scientist the rural-urban fringe is more than insufficient tax returns, inconsistent land-use patterns, high-cost utilities, deteriorating roads, or inadequate social organization. He sees a new phase in the urbanization process, a dynamic expansion in the number of persons that set themselves apart residentially from the urban center to which they are bound by economic interdependence, social interrelationships, and cultural ties and sentiments.[3] He sees an area of unmeasured forces and obscure patternings.

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[1] Walter Firey, "Ecological Considerations in Planning for Rurban Fringes," *American Sociological Review*, XI (Aug. 1946), 411-421; also his *Social Aspects to Land Use Planning in the Country-City Fringe: The Case of Flint, Michigan*, Special Bulletin 339, Michigan State College Agricultural Experiment Station (East Lansing, 1946).

[2] "The average rural-urban fringe dweller wants to have food market, grade school, and drug store reasonably close to home, which in most instances means walking distance. Beauty parlor, gas station, high school, church, parks, and movies are close enough if they lie within a radius of a mile and a half." Richard Dewey, "Peripheral Expansion in Milwaukee County," *American Journal of Sociology*, LIV (Sept. 1948), 124.

[3] As evidence of concern with this separation of residence from place of work, see Gerald W. Breese, *The Daytime Population of the Central Business District of Chicago* (Chicago, 1949); and Kate K. Liepman, *The Journey to Work* (New York), 1944.

The function of the scientist is to bring order to the apparent confusion of the empirical world. His postulation of a certain degree of order in this world anticipates that events in the rural-urban fringe are not completely chaotic and have their counterpart in the familiar and seemingly more stable rural and urban patterns. A lengthy array of questions must be dealt with, however, before the fringe pattern becomes clear. What system of values, what ecological forces, what demographic factors are related to the mass settling of the countryside? What process of selection operates during the locational activities of the population? What joys, fears, satisfactions, and frustrations await the migrant seeking residence in the fringe? To the extent that the social scientist provides answers to these and many other questions he brings order to the unordered and control to the unrestrained. By so doing he provides the most dependable basis for arriving at solutions to the pressing problems which have kept pace in their growth with the fringe population itself.

We are primarily concerned in the present report with the adjustment of fringe dwellers to location of residence in the fringe area, and with the extent to which factors associated with expressed degrees of adjustment may provide clues to the residence-location activities of the mobile American people. Location activities in regard to housing have received much less investigation than those having to do with business sites, although it is not clear that this differential in emphasis reflects differences in importance. The fact that an increasingly larger proportion of homes are being located in the rural-urban fringe makes an exploratory inquiry into location activities and satisfactions in that area a pertinent one.

Development of the Rural-Urban Fringe

The development of small communities detached from, but dependent upon, the larger city is not a particularly recent phenomenon.[4] These suburbs or satellite cities, whether functioning as "dormitory," industrial, or resort towns, were necessarily located on transportation lines providing easy access to the major city. Under the impact of modern technology, particularly the private automobile, the pattern of small dependent communities strung along interurban rail lines has given way to a mass residential decentralization independent of the railroads, and to areas of settlement which were virtually nonexistent prior to the great "explosion" of cities which accompanied the development of rapid transportation and mass communication systems and the related extension of

[4] Paul H. Douglas, "Suburbs," *Encyclopedia of the Social Sciences,* (New York, 1934), XIV, 433-435; Niles Carpenter, *The Sociology of City Life* (New York, 1931), pp. 102-110.

urban conveniences beyond the city's political boundaries. The continuing expansion of the population concentrated in this peripheral or "fringe" area is one of the most significant of population trends.

Recent Growth of Fringe Population. In terms of rapid population growth the outstanding area of the metropolitan region is not the dominant central city nor the satellite suburb but the unincorporated countryside[5]. In forty-three of the largest metropolitan districts, the unincorporated area increased 14.5 times more rapidly than the central cities during the period 1930 to 1940 and 9.5 times faster than the incorporated suburbs.[6] During the 1930s the rate of suburban growth was actually not as much as during the 1920s.[7] In the case of the Standard Metropolitan Areas,[8] the central cities increased 13 per cent between 1940 and 1950 as compared with a 34.7 per cent increase of population in the outlying areas. Population residing outside these metropolitan areas increased by only 5.7 per cent during this period.[9]

Because of changes in census definitions[10] it is not possible to make an exact statement about rate of growth in the rural-urban fringe. However, the "urban fringe" areas of the 157 cities with 50,000 population or more contained in 1950 about 7,899,000 persons, not including those

[5] It is to this unincorporated countryside interlaced with motor roads and inhabited mainly by former urban dwellers that we apply the term "rural-urban fringe." The highly urbanized and frequently industrialized satellite cities are beyond the scope of this study.

[6] J. M. Gillette, "Some Population Shifts in the United States, 1930-1940," *American Sociological Review,* VI (Oct. 1941), 624. See also Homer Hoyt, "The Structure of American Cities in the Post-War Era," *American Journal of Sociology,* XLVIII (Jan. 1943), 477.

[7] Noel P. Gist and L. A. Halbert, *Urban Society,* 3rd ed. (New York, 1948), p. 128.

[8] For all urban places of 50,000 population or more in 1950, census data are being released for the "urban fringe," an area contiguous to the central city or cities and consisting "characteristically of land developed in a street pattern and with a density of at least 2,000 per square mile." Also, for cities of this size, the metropolitan area based on number and occupation of inhabitants and social and economic intergration with the central city has replaced the metropolitan district based on density. It is not anticipated that either of these new areas will coincide exactly with the rural-urban fringe as conceived by various observers, but because of more readily available census data they will tend to replace previous conceptions. Henry S. Shryock, Jr., "Opportunities for Social Research in the 1950 Census of Population," *American Sociological Review,* XV (June 1950), 417-423; also Donald J. Bogue, "Economic Areas as a Tool for Research and Planning," *American Sociological Review,* XV (June 1950), 409-416.

[9] U. S. Bureau of the Census, *1950 Census of Population, Preliminary Counts,* Series PC-3, No. 3 (Nov. 5, 1950).

[10] Beginning with the 1920 census and up to but not including the 1950 census, the suburban and other fringe areas not meeting the criteria of urban places were classified in the rural-nonfarm category, a "hodgepodge embracing some of the most widely divergent segments of the entire population." T. Lynn Smith, *Population Analysis* (New York, 1948), p. 33. Also see note 8 above.

residing in incorporated places of 2,500 or more.[11] In the West 12.1 per cent of the urban population falls in the urban fringe, in the North Central region only 4.7 per cent.[12] Many towns of less than 50,000 population give very definite evidence of heavy peripheral growth, so that these figures on the "urban fringe" are extremely conservative. Further analysis will undoubtedly reveal a continuation of rapid growth in this unincorporated peripheral area.

The Challenge to Social Science. Urban sociologists, human ecologists, and workers in related fields have had no small success in reducing the apparent chaos and complexity of the city into orderly patterns of spatial distribution. The various types of land use, the sequence of growth, maturation, and deterioration, and many characteristics of the population have been shown, with a varying degree of success, to approximate concentric zones,[13] sectors,[14] interrelated nuclei,[15] or combinations of these or other patterns. Similarly, order is apparent in the rural areas; the theory of the isolated state devised by von Thünnen,[16] the theoretical distribution of rural trade centers worked out by Christaller,[17] the pioneering work of Galpin[18] in the United States, and the various modifications and elaborations of these schemes have all operated to bring order and simplicity into the rural pattern.

The continuing increase in size and importance of the urban peripheral population has been accompanied inevitably by some shifting of interest from more traditional areas of study to the incorporated and unincorporated places around the city's edge to which so many families gravitate. What have been the reactions of those who have turned to observe the rural-urban fringe? Accustomed to the characteristic rural or urban pattern, they appear to lose confidence when faced with a re-

[11] U. S. Bureau of the Census, *1950 Census of Population, Preliminary Counts,* Series PC-3, No. 10 (Feb. 16, 1951), p. 2.

[12] *Ibid.*

[13] E. W. Burgess, "The Growth of the City," Chap. II of *The City,* by R. E. Park, E. W. Burgess, and R. D. McKenzie (Chicago, 1925); originally published in *Proceedings of the American Sociological Society,* XVIII (1923), 85-89. More recent studies concerned with this zonal hypothesis are too numerous to be listed here.

[14] Homer Hoyt, *The Structure and Growth of Residential Neighborhoods in American Cities,* Federal Housing Administration (Washington, D. C., 1939).

[15] Chauncy D. Harris and Edward L. Ullman, in Robert B. Mitchell, ed., "Building the Future City," *Annals of the American Academy of Political and Social Sciences,* CCXLII (1945), 7-17.

[16] J. H. von Thünnen, *Der Isolierts Staat in Beziehung auf Landwirtshaft und Nationalökonomie* (Jena, 1910).

[17] Walther Christaller, *Die Zentralen Orte Suddeutschalands* (Jena, 1933).

[18] C. J. Galpin, *The Social Anatomy of an Agricultural Community,* Research Bulletin 34, Agricultural Experiment Station of the University of Wisconsin (Madison, 1915).

gion in which these two types of land use intermingle. Along the highways just outside the city limits they see a motley collection of trailer camps, motels, markets, service stations, taverns, auto-wrecking yards, junk shops, and road houses, to which, more recently, outdoor theaters have been added. In the interstitial areas between the main highways lies an untidy hodgepodge of miserable, unpainted shacks with hand pumps and backyard privies, spacious country estates with landscaped grounds, intensively cultivated commercial farms, straggling unkempt gardens, and solid blocks of middle-class and workingmen's homes arranged in urban patterns. Here and there are empty lots and larger brush-covered tracts awaiting future development. Apparently inconsistent and incompatible land uses prevail on every side.

That observers have been impressed by the apparent chaos of the fringe is evident in their choice of descriptive terms: "fringe," "marginal area," "twilight zone," "dead center" characterized by "pathological conditions," "shifting land values," "variability and instability," "capreciousness and diseconomy." This does not mean that the human ecologist or other investigator looks upon this area as completely chaotic and incapable of analysis. But it does indicate his awareness that the generalizations evolving out of the study of urban centers and rural farm areas may be inadequate or inappropriate when applied to regions of conglomerate rural-urban land use. The comparative complexity and disorder of the rural-urban fringe is in the main, however, a reflection of its recency as an object of scientific inquiry. Continuing concern with the area and its population should reduce the complexity to more familiar and more simple elements. This is the challenge the area presents to the social scientist. That the challenge is being met is shown in the number of recent studies which have been reported.

An Inventory of Findings and Shortcomings

A large literature relates directly or indirectly to the modern rural-urban fringe. Studies of early suburbanization, rural-urban migration, metropolitan regions, rural government, county zoning, part-time farming, and numerous other topics, as well as studies specifically concerned with the urban fringe, have a bearing on the present study. Limited space prevents a full review of this literature. Instead, five persistent shortcomings characteristic of existing studies of the fringe area will be discussed in relation to selected examples. The shortcomings are: (1) inadequate theoretical foundation, (2) absence of comparable study areas, (3) inadequate statement and treatment of hypotheses, (4) inadequate sampling procedure, and (5) the resulting inadequate basis for making generalizations about the universe of study.

(1) Inadequate Theoretical Foundation. Reports of studies of the rural-urban fringe emphasize empirical findings *per se* rather than their importance in relation to some underlying theory. This failure to properly develop the frame of reference testifies to the state of development of human ecology and to its lack of an adequate general theory.[19]

Two studies represent serious attempts at definitive statements regarding the fringe area, a third stands alone as an effort to incorporate the area into a general and more comprehensive theory. Wehrwein's[20] discussion remains one of the best. He not only describes in cogent fashion the factors related to the development of this area, but also relates the growth process to existing theories of land use such as those of von Thünnen, Christaller, and Park and Burgess. Another good study, apparently initiated under the guidance of Professor Wehrwein, does some pioneering work in differentiating between the "urban-fringe" as the "active expansion sector of the compact economic city" and the rural-urban fringe, the "area adjoining the urban-fringe outward from the economic city in which there is an intermingling of characteristically agricultural and characteristically urban land uses."[21]

Walter Firey has attempted a single inclusive theory of slums, in which the "rurban" fringe, the ghetto, the rooming-house area, and the rural creek-bottom or forest-farm slum all appear as varieties of a single land-use phenomenon.[22] Such a general theory is highly desirable and Firey's account, utilizing fringe data almost exclusively, is of particular interest here. The suggested hypothesis is a variation of the substitution principle of marginal-utility economics in which the concept "social utility" is substituted for rent, thus going "somewhat further than a strictly economic analysis." As Hawley[23] points out, this replacement of terms at first recommends itself to the sociologist until he attempts to pin down the referents of "social utility." The development of the hypothesis is an interesting excursion in *a priori* reasoning; but the excellent empirical data do not seem to be an integral part of the theory development. It remains to be seen if the variables, "accessibility" and "social utility," can be operationally defined and demonstrated to behave in relationship to one another in the manner Firey indicates.

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[19] Milla Aïssa Alihan, *Social Ecology, A Critical Analysis* (New York, 1938), *passim.*

[20] George S. Wehrwein, "The Rural-Urban Fringe," *Economic Geography,* XVIII, (July, 1942), 217-228. See also *The Rural-Urban Fringe,* Proceedings of Commonwealth Conference, University of Oregon, Apr. 1942 (Eugene, 1942).

[21] Richard B. Andrews, "Elements in the Urban-Fringe Pattern," *Journal of Land and Public Utility Economics,* XVIII (May 1942), 169-183. See our discussion regarding the 1950 census definition of "urban fringe," p. 3, note 8.

[22] Walter Firey, "Ecological Considerations in Planning for Rurban Fringes," *American Sociological Review,* XI (Aug. 1946), 411.

[23] Amos H. Hawley, discusion of Walter Firey's article, *ibid.,* p. 422.

Other investigators seem to have restricted their interests to the gathering of simple descriptive statistics apparently unrelated to any particular frame of reference or set of hypotheses.

(2) Absence of Comparable Study Areas. One definite restriction on the development of more general knowledge about the fringe area has been the lack of comparability of the areas studied. In the past, research has been handicapped by the unrealistic nature of the residence categories used by the Bureau of the Census and by the lack of correspondence between a functional area such as the fringe and any possible combination of political or administrative subdivisions.[24] Redefinition of urban population and the use of the urban-fringe category in the 1950 census has for the first time segregated the population clustered closely around the city limits from village residents and other dissimilar elements which previously were thrown together as rural nonfarm. One or both of two census categories used for the first time in the 1950 census will almost certainly supplant the rural-urban fringe as delimited by individual researchers, each according to his own set of criteria.[25] The previously critical problem of rural-urban fringe research, that of area delimitation, has thus been minimized.

(3) Inadequate Statement and Treatment of Hypotheses. One aspect of the development toward higher-level forms of inquiry in any field of scientific interest is increasing dissatisfaction with reports of casual surveys or reconnaissances of field situations, the uniqueness or typicality of which remains a matter of unsubstantiated conjecture. This unrest grows out of an increasing awareness of the uncertain validity and reliability of knowledge thus accumulated compared to that which is painstakingly sifted out through the repeated testing of carefully worded hypotheses under described conditions. This growing dissatisfaction with the mere massing of factual data through scores of unrelated community surveys can only be interpreted as a sign of increasing scientific sophistication, which is certain to be accompanied by the recognition of the essential function of the explicitly stated hypothesis in giving direction, orientation, and meaning to research acitvities.[26] In community research, where the customary emphasis has been on the compilation of

[24] S. E. Sanders and A. J. Rabuck, *New City Patterns* (New York, 1946), Chap. II.

[25] Where census data are available for small areas such as townships, objective techniques of delimiting the fringe area may be utilized. See Myles Rodehaver, "The Rural-Urban Fringe: An Interstitial Area," unpublished Ph.D. dissertation, University of Wisconsin, 1946; and also Richard B. Myers and J. Allen Beegle, "Delineation and Analysis of the Rural-Urban Fringe," *Applied Anthropology,* VI (Winter 1947), 14-22.

[26] Morris R. Cohen and Ernest Nagel, *An Introduction to Logic and Scientific Method* (New York, 1934), Chap. XI.

simple descriptive statistics, this transition to a more fruitful as well as more rigorous approach is long overdue.[27] In rural-urban fringe research only one study gives evidence of concern with the testing of explicit hypotheses.[28] Significant additions to knowledge of the fringe population will come through the repeated testing of such hypotheses under a variety of conditions rather than the relatively uncritical accumulation of "facts" through perennial social surveys.

(4) Inadequate Sampling Procedure. It is common practice in community analysis to "avoid" sampling, with all of its attendant complications, whenever possible. This usually results in an approximately complete enumeration of an available small neighborhood or other area, with resulting limitations on the value and generality[29] of any conclusions forthcoming from the study. This predilection for "natural histories" of small atypical areas has probably done more to retard the development of a system of interrelated, verifiable, and consistent generalizations about the community than any other factor.

While it is true that fringe areas present sampling problems not characteristic of urban centers, it is possible nevertheless to select respondents in such a way as to insure that they are representative of the general population being studied. The rules for selecting such samples have been formulated elsewhere;[30] in brief, it is necessary to insure that each unit of the universe has a known, usually equal, probability of being selected. The investigator is thus denied the privilege and pleasure of personal choice or purposive selection, no matter how beguiling the circumstances may be.[31] This rule proscribing deliberate selection will be the criterion of adequacy of sampling procedure in the studies reviewed below.

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[27] This is not to disparage concern with size and composition of populations; the essential business of describing birth rates, death rates, marital status, and ethnic composition must continue and be expanded in scope. But above and beyond this, there must be the testing of hypotheses regarding the relationship, interaction, and association of the various factors involved.

[28] Myles Rodehaver, *op. cit.*; also "Fringe Settlement as a Two Dimensional Movement," *Rural Sociology,* XII (Mar. 1947), 49-57.

[29] The limitations placed on the process of generalizing are discussed below.

[30] Frank Yates, *Sampling Methods for Censuses and Surveys* (New York, 1949); Bureau of the Census, *A Chapter in Population Sampling* (Washington, D. C., 1947); Morris H. Hanson and William N. Hurwitz, "On the Theory of Sampling from Finite Populations," *Annals of Mathematical Statistics,* XIV (Dec. 1943), 333-362; Morris H. Hanson, "Sampling of Human Populations," mimeographed, a paper presented at the International Statistical Conference, Washington, D. C., Sept. 1947. For additional references, see Bureau of the Census, *Selected Articles on or Illustrating Applications of Sampling Methods, with Particular Reference to the Sampling Work of the Bureau of Census* (Washington, D.C., 1947).

[31] This restriction is well known and has been expressed by many writers. Yates states it well: "Because of the dissimilarities of the different units neither haphaz-

It is convenient to consider four levels on which sampling might well be utilized in a study of the fringe: (a) selecting a number of fringe areas representative of a universe of fringe areas; (b) selecting subareas representative of the subareas comprising a given fringe area; (c) selecting dwelling units, households, or families representative of those located within all of, or some portion of, a given fringe area; (d) selecting representative individuals from within designated dwelling units, households, or families. Any one study may use sampling on some, none, or all of these levels.[32] The four categories form a framework within which the studies which have been reported will be discussed.

(a) As yet there is no record of any investigator attempting to select a sample of all the fringe areas within any circumscribed area such as the United States. This is understandable in view of the difficulties involved in delimiting a number of fringe areas for study.[33] Of necessity fringe researchers have had to choose an easily available area and subject it to intensive analysis, frequently attempting to avoid sampling problems by striving for complete enumeration of all families.[34] It must be acknowledged that, outside of local interest, such observation of specific fringe areas are of value mainly to suggest insights and hypotheses regarding the behavior of the general fringe population of the nation.

(b) The problem of selecting subareas of a fringe has almost always been solved through purposive selection. Characteristically, "typical" neighborhoods, townships, or voting precincts are chosen and, at least

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ard nor casual selection, *and still less deliberate selection,* can be expected to provide a representative sample" (italics added), *op. cit.,* pp. 1-2. Also see Margaret Hagood, *Statistics for Sociologists* (New York, 1941), pp. 410-411, 415-416.

[32] Any combination of these sampling levels involves subsampling or what Yates calls "multistage" sampling and attendant complication of formulae. See Yates, *op. cit.,* p. 34; see also Bureau of Census, *A Chapter on Population Sampling, passim.*

[33] Since the above was written comparative fringe studies utilizing the 1950 census categories have begun to appear. See, for example, Stuart A. Queen and David B. Carpenter, "The Sociological Significance of the Rural-Urban Fringe from the Urban Point of View," *Rural Sociology,* XVIII (1953), 102-108.

[34] N. L. Whetten and E. C. Devereux, Jr., *Studies of Suburbanization in Connecticut,* No. 1, Windsor, No. 2, Norwich, No. 3, Wilton Storrs, Conn. (1936); W. R. Gordon and G. S. Meldrum, *Land, People and Farming in a Rurban Zone,* Rhode Island State College Bulletin 285 (Nov. 1942); Walter Firey, *Social Aspects of Land Use Planning in the Country-City Fringe: The Case of Flint, Michigan,* Special Bulletin 339, Agricultural Experiment Station, Michigan State College (East Lansing, 1946); Lloyd M. Faust, "The Eugene, Oregon Rural-Urban Fringe," in *The Rural Urban Fringe* (Eugene, 1942); Solon T. Kimball, *The New Social Frontier: The Fringe,* Special Bulletin 360, Agricultural Experiment Station, Michigan State College (East Lansing, 1949); Richard S. Dewey, "Peripheral Expansion of Population in Metropolitan Milwaukee," unpublished Ph.D. dissertation, University of Wisconsin, 1946, and "Peripheral Expansion in Milwaukee County," *American Journal of Sociology,* LIV (Sept. 1948), 118-125; Myles Rodehaver, *op. cit.*

occasionally, used as sources of generalizations about the larger fringe area, with little or no basis being given for evaluating the alleged typicality.

Firey, for example, thought it "advisable to select neighborhoods that differed considerably from one another and yet typified the whole range of land use problems that practical administrators might encounter in other fringe areas."[35] The reader is not informed as to the criteria by which the three neighborhoods were selected, except that "each of these is a uniform area in terms of land use, housing, and population,"[36] and that they "seem to bring out pretty well the whole range of problems that are likely to be encountered in the fringe."[37]

In their study in Rhode Island, Gordon and Meldrum chose two towns thought of as occupying: "two points on a scale of variation which measures the extent to which rural community life is modified under the dominance of nearby cities."[38] These two towns are reported as "constituting a composite sample of Washington County"[39] and as "examples of the non-urban part of the state."[40]

Two more examples of purposive selection will suffice. Faust chose three voting precincts "on the basis of their representativeness of all types of fringe areas,"[41] while Kimball picked one out of three "heavily non-rural" townships as best satisfying the requirements of his problem.[42]

The intensive study of deliberately selected portions of fringe areas is not without value and has in fact been fruitful in the production of intriguing insights and hypotheses for test in later research dealing with more representative samples. The danger lies in the ever-present tendency to generalize for the larger fringe population on the basis of these personally selected, and frequently atypical, subareas.[43] Since there is little reason for assuming that these areas are representative of the larger area, there is no basis for inferences regarding such a larger area.

(c) When faced with the problem of selecting dwelling units, households, or families, researchers in the fringe area frequently attempt com-

[35] Walter Firey, *Social Aspects to Land Use Planning in the Country-City Fringe: The Case of Flint, Michigan,* p. 8.
[36] *Ibid.,* p. 25.
[37] *Ibid.,* p. 26.
[38] *Op. cit.,* p 3.
[39] *Ibid.,* p. 7.
[40] *Ibid.,* p. 3.
[41] *Op. cit.,* p. 13.
[42] *Op. cit.,* p. 9.
[43] Gist and Halbert, as one example, quote Faust's figures on reasons given for moving toward the periphery of Eugene, Oregon, with no indication that the percentages are based on other than a representative sample. *Op. cit.,* p. 127.

plete enumeration within the small area set aside for study.[44] Where "sampling" has been attempted it has been a faithful following out of the tradition that the investigator knows best when it comes to selecting informants. Firey reports holding a series of interviews with various community leaders and with residents "selected at random but with an eye to representing all degrees of gardening (from none to extensive) and all types of dwelling."[45] When it is considered that, of the 100 interviews selected from the three neighborhoods in this fashion, only "84 yielded information that could be statistically handled,"[46] considerable caution is indicated in the evaluation of the author's conclusions.

A recent report by a cultural anthropologist[47] gives no basis for evaluating the findings except that they seem "reasonable" and "very plausible."[48] No mention is made of the number of informants, their age, sex, marital status, or social status. No information is given concerning the method of contacting these anonymous informants nor concerning the means by which, or the conditions under which, their responses were elicited. Perhaps the study is mainly useful as a bench mark to remind sociologists of the progress they have made in overcoming the methodological naïveté of earlier periods.

Two attempts have been made to obtain a representative sample of an entire rural-urban fringe population. Dewey's procedure resulted in sampling inadequacies of at least potentially serious nature, in that only 3,970 of the 12,000 schedules he circulated through the school system of the Milwaukee, Wisconsin fringe were returned.[49] In general, however, his study appears to have been carefully designed and carried out and presents some particularly valuable generalizations concerning the origins of the fringe population, their reaction to fringe residence, and their preferences for larger lots and for improved utilities and public services.

A report by Myles Rodehaver based on 370 "carefully selected and representative families" residing in the fringe area of Madison, Wis-

[44] The disadvantage here, of course, is that sampling procedures involving no larger numbers of interviews would result in figures accurate to a known degree and representative of a much larger area. Moreover, complete enumeration has usually meant incomplete schedules for some 10 per cent of the population, so that sampling bias of an unknown nature is involved even here.

[45] Walter Firey, *Social Aspects to Land Use Planning in the Country-City Fringe: The Case of Flint Michigan,* p. 8.

[46] *Ibid.,* p. 8.

[47] Kimball, *op. cit.*

[48] William H. Sewell, review of Kimball's monograph, *Rural Sociology,* XV (June 1950), 181-182.

[49] In spite of the independent checks which "gave evidence of the sample's being representative of the total population," Dewey's conclusion that "the thirty-three per cent return seems to justify the action taken" appears optimistic. "Peripheral Expansion of Population in Metropolitan Milwaukee," p. 89.

consin represents the only other attempt to obtain a comprehensive sample.[50] In contrast to other research in the rural-urban fringe, Rodehaver's study is marked by a very careful delineation of the study area in terms of specified objective criteria, the setting up of specific hypotheses, and the subjecting of suggested relationships to statistical tests. Rather conclusive evidence is presented to substantiate the idea that fringe populations are made up of former rural farm residents as well as former city dwellers. Significant differences were observed between these two groups in reasons for moving to the fringe, period in the family cycle during which the move occurred, and extent of political and social participation.

It is thus seen that population sampling procedures have varied considerably from the prescribed rules. More recent studies have in general been characterized by serious efforts to improve this phase of the methodological design.

(d) There has been no systematic attempt by fringe researchers to use acceptable sampling procedures in selecting respondents from the individuals residing within a selected dwelling unit. This refinement in sampling procedure should be considered in future research.

(5) The Validity and Scope of Generalization. Probably the greatest shortcoming of rural-urban fringe research is the questionable validity and scope of the generalizations it provides. The observation, no matter how painstaking, of a single, small, selected area is of limited interest unless it is presumed that this area is representative of other similar areas and that study of the one area provides generalizations about the demographic and behavioral characteristics of people living in all such areas. Unfortunately for the development of a body of scientifically acceptable knowledge about the rural-urban fringe, most studies which have been made were not designed to provide generalizations outside of the small, atypical neighborhoods, townships, or other minor civil divisions which were examined.

To a large extent the problem outlined here will be solved once correct sampling procedure is adopted. A correctly selected sample makes possible estimates of population parameters which, almost with certainty, will not differ by more than a prescribed amount from the value being estimated. Such a sample not only provides a basis for making generalizations about the universe of study but also makes possible statements about the precision of these generalizations.

In summary, it has been shown that the empirical data of fringe

[50] Myles Rodehaver, "Fringe Settlement as a Two Dimensional Movement," *Rural Sociology,* XII (Mar. 1947), 50.

studies are inadequately related to theory and that the explicit statement and testing of hypotheses is a rather recent development in fringe studies. In sampling areas, dwelling units, or individuals, deliberate purposive selection by the investigator has been the characteristic method of procedure. As a result of these shortcomings, generalizations about the population of the rural-urban fringe are very suspect. Such generalizations are based on fringe areas which are probably not representative of fringe areas in general, on neighborhoods, suburban centers, and minor civil divisions which probably do not adequately represent the fringe area of which they are a part, and on individuals not selected in a way which would permit them to be considered representative of the population being studied.

These conclusions are not surprising when the pioneering, exploratory nature of the studies is considered. They indicate, however, the specifications which govern the design of the present study. While we have not been able to fulfill these specifications in all cases, the emphasis has been placed on the testing of carefully phrased hypotheses derived from existing theory, by means of data elicited from a representative sample of a specific population, in order that generalizations regarding this population could be made within a specified range of error.

Before we examine the details of the study design, however, it is important that we consider the theoretical background and premises upon which the study rests.

Chapter II

ECOLOGICAL THEORY AND SOME PROPOSED HYPOTHESES

HUMAN ecologists are concerned with regularities in the spatial arrangements assumed by man's social activities and cultural products. They seek the factors significantly related to these regularities in order to generalize about present and future adaptation patterns of man to space. While there is general agreement as to the goal of ecology, the field has been characterized by inadequate and conflicting theoretical formulations over the decades of its development as a recognized discipline within the field of sociology.[1]

Efforts have been made recently to develop a consistent over-all frame of reference for human ecology,[2] a task which is not proposed for this report. Rather, we propose to examine a relatively practical and concrete problem in the light of existing ecological theory, to see if the theory proves of analytical value and in hope that, in turn, our findings will contribute to the substantiation or refutation of certain premises and hypotheses of that theory. The verbalized reactions of Eugene-Springfield fringe residents to location in the fringe, plus reports in each case on personal and situational factors, comprise our basic data. We suspect that degree of satisfaction with residence location reflects the ecological factors of location as experienced by the individual resident and suggest that, by isolating those factors which are significantly associated with this sociopsychological variable, we may develop new insights into the ecology of location activities. To what extent does ecological theory provide us with a framework or set of hypotheses for an analysis of this type? Once more it is necessary to turn to the literature.

Derivation of Hypotheses

It would be possible to derive a rather impressive list of hypotheses from the ecological literature. It is necessary and desirable, however, that we concern ourselves with a limited number which appear to have the greatest relevance for our particular problem, in order that they may

[1] See especially Alihan, *Social Ecology,* a striking criticism of ecological theory, which is itself lacking in systematic theoretical structure.

[2] Walter Firey, *Land Use in Central Boston* (Cambridge, 1947) ; Amos Hawley, *Human Ecology, A Theory of Community Structure* (New York, 1950) ; Calvin F. Schmid, "The Relationship between Human Ecology and Social Psychology from a Research Standpoint," a paper presented before the 45th annual meeting of the American Sociological Society, Denver, Sept. 7, 8, and 9, 1950.

be dealt with intensively. Two major hypotheses running through the ecological literature might be called the *friction-of-space hypothesis*[3] and the *hypothesis of sociocultural influences.*[4] The tendency has been, when these hypotheses have been stated more or less explicitly, to criticize or defend them on logical, *a priori* grounds rather than on the basis of empirical test. This tendency seems strange in a discipline recognized for its preoccupation with empirical data rather than theory. We propose to state these two hypotheses as empirical propositions in relation to satisfaction with residential location and to subject them to test. We make no plea that the tests are critical or sufficient for the hypotheses as implicit in the literature, but hold that they are adequate for our restated propositions.

The Hypothesis of Accessibility. Running throughout ecological literature is an interest in the restrictive nature of space and its relationship to the pattern in which man's activities are territorially distributed.[5] According to the theory to which numerous writers have contributed, human interrelationships "involve the overcoming of a number of resistances which are generalized in the phrase *friction of space,*"[6] and "the layout of a metropolis—the assignment of activities to areas—tends to be determined by a principle which may be termed the minimizing of the cost of friction."[7] According to the various descriptions, a population mass tends to distribute itself around a point of intersecting transportation and communication lines in such a manner that this point continues to be the "median position" characterized by the "highest acessibility." With sustenance activities and social activities centralized around this focal point, "time-cost-energy expenditures" involved in overcoming the restrictions of space are minimized for the community. All persons and groups compete for the limited number of sites at this favorable location where accessibility,[8] vehicular and pedestrian traffic,[9] and the po-

[3] Robert M. Haig, "Towards an Understanding of the Metropolis—the Assignment of Activities to Areas in Urban Regions," *Quarterly Journal of Economics,* XL (May 1926), 402-434.

[4] Walter Firey, *Land Use in Central Boston,* Chap III *et passim.*

[5] Robert M. Haig, *op. cit.;* Robert M. Haig and Roswell C. McCrea, "Major Economic Factors in Metropolitan Growth and Arrangement," in *Regional Survey of New York and Environs* (New York, 1927), I, 38-39; Amos Hawley, *op cit.,* pp. 236-237; James A. Quinn, *Human Ecology* (New York, 1950), pp. 285-288; Walter Firey, *Land Use in Central Boston,* Chap. I.

[6] Amos Hawley, *ibid.,* p. 237.

[7] Robert M. Haig, *ibid.,* p. 422.

[8] Robert M. Haig, *op cit.;* Calvin F. Schmid, "Land Values as an Ecological Index," *Research Studies of the State College of Washington,* IX (Mar. 1941), 23; Homer Hoyt, *The Structure and Growth of Residential Neighborhoods in American Cities* (Washington, D. C., 1939) p. 19.

[9] Calvin F. Schmid, *ibid.,* p. 23; Homer Hoyt, *ibid.,* p. 19.

tential number of social contacts are maximized.[10] As a result of this continuing competition,[11] maximum utilization of land is attempted in the central area, buildings multiply in number and height, land values soar, specialization increases, and the ever-growing influence of the market place as a center of dominance reaches out over a continously expanding hinterland, attracting customers and integrating specialized areas and activities.[12]

The great bulk of data introduced to substantiate the friction-of-space hypothesis consists of the location activities of commercial concerns. Residence-location activities are less frequently mentioned but have not escaped attention. Haig, for example, states:

> In choosing a residence purely as a consumption proposition, one buys accessibility precisely as one buys clothes or food. He considers how much he wants the contacts furnished by the central location, weighing the "costs of friction" involved—the various possible combinations of site rent, time value, and transportation costs; he compares this want with his other desires and his resources and fits it into his scale of consumption, and buys.[13]

Quinn applies his hypothesis of median location[14] specifically to

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[10] A. B. Hollingshead, "Human Ecology," in Robert E. Park, ed., *An Outline of the Principles of Sociology* (New York, 1939), p. 104; Carl A. Dawson and Warner E. Gettys, *An Introduction to Sociology,* 3rd ed. (New York, 1948), p. 216.

[11] It is the view of this competition as a subsocial, subcultural, biotic process bringing about the selection and distribution of social activities in space that has been the target of most critics of the earlier ecological writings. See Alihan, *op cit., passim.*

[12] Dawson and Gettys, *ibid.,* pp. 154-170; Don J. Bogue, *The Structure of the Metropolitan Community* (Ann Arbor, 1949), Chap. III *et passim.*

Walter Firey has centered attention on the acceptance in human ecology of the intrinsic nature of space as a causative factor in the spatial patterning of man's activities and artifacts. He has held that this "ecological determinism" characterizes all variations of ecological theory and that the variations are to be differentiated mainly on the degree of explicitness with which it is held that space is the independent "causing" factor and territorial distribution the dependent "caused" variable. A "cultural ecology" to include the factors of will, volition, social values, and sentiments is proposed. See his *Land Use in Central Boston,* Chap. I *et passim.* In his excellent critique of Firey's work, James presents abundant evidence that previous writers have in fact taken into consideration the social and cultural factors which Firey charges them with ignoring. John James, "A Critique of Firey's *Land Use in Central Boston," American Journal of Sociology,* LIV (Nov. 1948), 228-234.

[13] *Op. cit.,* p. 423.

[14] A variation of the friction-of-space hypothesis, this hypothesis holds that: "Within a free competitive system, social and aesthetic factors being equal, a mobile ecological unit tends to occupy a median location with respect to (1) the environmental resources that it utilizes, (2) the other units on which it depends, and (3) the other units that it serves." Quinn, *op. cit.,* p. 286. The point to which Quinn refers as the "median location" is not a median in the usual sense of the word; but rather, as the point so located as to be closest to all other designated or relevent points, it appears to be some form of weighted mean. In spite of this ambiguity we have continued to use Quinn's term, partly in deference to established

homes[15] and lists "convenience of location with respect to facilities used by the family"[16] as a major factor influencing desirability of residences. He states, "Median location with respect to the various places visited by members of a household is the place of greatest residential convenience."[17] While the last statement is a formal definition of residential convenience rather than an empirical proposition, it suggests a modification of the median-location hypothesis which may be of value in an analysis of residence-location factors in the rural-urban fringe.

We propose a hypothesis concerning the relationship between friction of space and satisfaction with residence location. To distinguish it from the general friction-of-space hypothesis, it will be referred to as the *hypothesis of accessibility*. The premises upon which this proposition rests are as follows:

(1) Every person and group is engaged in a constant struggle for the point of highest accessibility, the city center. This is the point at which the largest number of individuals interact for the satisfaction of needs.

(2) The city center is the median location for family residence. Residence location at this point minimizes the time-cost-energy expenditures involved in carrying out family activities scattered through space.[18]

(3) The extent of deviation of residence from median location is reflected in the degree of satisfaction of family members with the location of residence. Satisfaction with residence location is readily verbalized and can be observed and measured in a variety of ways.

We are now able to state, at least tentatively, a hypothesis of relationship between satisfaction with residence location and the accessibility of the city center to that location. This hypothesis of accessibility is derived directly from ecological theory and, in view of the second premise, is a variation of Quinn's median-location hypothesis as well as the more general friction-of-space concept.[19] It can be stated in general terms as follows:

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usage and partly for lack of a more appropriate term. Within our framework it simply designates the center of the city as the point to which the urban population considered as a whole has the greatest ease of access.

[15] *Ibid.*, p. 288.

[16] *Ibid.*, p. 105.

[17] *Ibid.*, p. 105. Instructions are given at this point for plotting the various activities of a household and determining the extent to which a given residence is located at the "median."

[18] This premise is at least as reasonable as one holding that residences in the rural-urban fringe occupy median location. Even the casual observer recognizes that a disproportionate share of the fringe family's activities take place on the cityward side of the residence location.

[19] Tests of the accessibility hypothesis as conceived in this study cannot be considered crucial tests either of the general friction-of-space hypothesis or of Quinn's formulation.

The extent of satisfaction of family members with the location of their residence varies directly with the degree of accessibility of the center to that location, or, in other terms, varies inversely with the deviation from the median residence location, the city center.

We shall restate this proposition in more specific terms and discuss means of subjecting it to test after deriving a second hypothesis in the section which follows.

The Hypothesis of Sociocultural Influences. It has been clearly demonstrated that ecologists have not failed to take into consideration the influences of social and cultural factors on location activities.[20] Nearly half a century ago Richard M. Hurd pointed out in his admirable little book that, while the basis of value of business sites is economic, the basis for residence values is social.[21] Among the features listed as attracting the wealthy to residential areas are nearness to parks, good approach to business center, a moderate elevation, favorable transportation facilities, and absence of nuisances.[22] Hurd[23] and, later, Hoyt[24] emphasize the influence of high-status families in attracting residences to locate near their own.

There is, in fact, general awareness of the role played by various social and cultural factors in relation to the desirability of residence location. We shall mention only one or two additional examples. Quinn lists "character of the 'neighborhood,' including types of neighborhood buildings and their state of repair, type of mobility of population, general reputation of the area, number and importance of nuisance features, and intensiveness of land utilization,"[25] as well as certain other variables. Firey emphasizes the importance of sentiment and other nonutilitarian and "nonrational" considerations.[26] Other authors have indicated a similar awareness of influences other than accessibility.

The problems of adjustment of the individual moving from one situation to another have received considerable attention from sociologists. Available studies show that the transporting of any organism from the

[20] John James, *op. cit.*, has done the most careful job of drawing together the evidence which refutes the contrary of this statement.

[21] "The contrast should be noted that business property is selected by the man from an economic standpoint, and residence property by the woman from a social standpoint." However, "when residences contain more than one tenant, whether tenements, flats, apartments or hotels, the basis of value is economic and conforms closely to the principles governing business property." Richard M. Hurd, *Principles of City Land Values* (New York, 1905), p. 78.

[22] *Ibid.* This listing tends to substantiate our accessibility hypothesis but also introduces other factors.

[23] *Ibid.*

[24] *Op. cit.*, p. 117.

[25] *Op. cit.*, p. 105.

[26] *Land Use in Central Boston.*

milieu to which it is conditioned to a new situation involving the modification or disruption of old habits and customary behavior patterns produces in the organism tensions and frustration which often reach remarkable intensity.[27] These tensions have been studied among human beings in a wide range of situations and behaviors,[28] including the former rural resident striving to adjust to an urban situation and his opposite number coming into contact with the rural culture pattern. Perhaps more has been said about the inappropriate responses of the rural person in the city than about those of the former urbanite seeking a satisfactory adjustment to a nonurban situation, but comments are not infrequent. Woolston's remarks are particularly appropriate here:[29]

> By whatever means the fixing of attitudes is accomplished, many observers of group behavior are inclined to believe that city folks act differently from countrymen. Such differences do not imply that we have to do with a distinct biological type, but rather that we have in cities a group of human beings who have become adapted to a characteristic form of civilization. So thoroughly are their habits of life adjusted to an urban setting that removal to other conditions sometimes produces restlessness, apathy, illusions, frustration and revolt. Anyone who has been marooned in a frontier post or who has camped out with city boys, well knows the symptoms and the consequences of loneliness away from street crowds and bright lights. Such artificial tastes may be outgrown; but while they exist, wise leaders must recognize their important bearing upon discipline and group efficiency.

According to this line of reasoning persons conditioned to life in large metropolitan centers would be expected to adjust less easily than others to the suburban and occassionally semi-isolated conditions of the rural-urban fringe.

We now propose a second hypothesis to deal with the relationship between sociocultural and sociopsychological factors and the degree of satisfaction with the location of residence. The premises upon which this *hypothesis of sociocultural influences* rests are listed below:

(1) Values and the bases of evaluation develop out of prolonged conditioning to a particular cultural pattern and social system. A person

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[27] For an excellent discussion of learning in terms of conditioning, see E. R. Guthrie, *The Psychology of Learning* (New York, 1935). Especially pertinent in connection with this point are Chap. X, "Habits," and Chap. XI, "Breaking Habits."

[28] Selected examples would be efforts to establish satisfactory new adjustment patterns on the part of (1) individuals recently bereaved or divorced after a long period of marriage, (2) former prison inmates released after a long period of encarceration, (3) recently arrived immigrants, (4) recent inductees in the armed forces, and (5) war refugees returned to cities from which nearly all familiar faces and landmarks have been erased.

[29] Howard Woolston, *Metropolis, A Study of Urban Communities* (New York, 1938), p. 115. Also see Paul H. Landis, *Rural Life in Process* (New York, 1940), Chap. XIII and pp. 224-231; Noel P. Gist and L. A. Halbert, *Urban Society*, 3rd ed. (New York, 1948), pp. 254-257; Pitirim Sorokin and Carle C. Zimmerman, *Principles of Rural-Urban Sociology* (New York, 1929), Chap. XIII.

may be exposed to a number of dissimilar or conflicting patterns but ordinarily his evaluative behavior reflects conditioning to a dominant system.

(2) The process of evaluating the desirability of a given residence location does not differ in this respect from other evaluative behavior. For any one person this evaluation is a reflection of the status hierarchies, value system, prestige symbols, and class structure of his society as they appear to him to be related to land-use patterns and to himself as a member of that society.

(3) The extent of satisfaction of an individual with his location of residence is closely related to the degree that it (a) restricts or interferes with his participation in a pattern of life or more specific behavior systems he has been conditioned to value, or (b) conflicts with his concept of the appropriate residence location for the person he conceives himself to be or to have a possibility of becoming. This satisfaction is readily verbalized and can be observed and measured in a variety of ways.

This line of reasoning proposes that residence locations are differently prized by different members of society. It suggests, for example, that residence in the rural-urban fringe might be maintained with less enthusiasm by a person accustomed to the bright lights and varied social contacts of the large city than by persons whose previous life has been spent in semirural, or at least not highly urbanized, places. It suggests also that a person conceiving of himself as upper-middle class might be more satisfied with a home located in an upper-middle-class neighborhood than with a more easily accessible home of superior construction located in an area considered to be lower-middle class. We should expect then that, for any given type of residence location, those individuals expressing satisfaction with the location will be characterized by common antecedents and other attributes which differentiate them from those that are dissatisfied with the location. This is our hypothesis of sociocultural influences. Later we shall reformulate this as a proposition dealing with residence in the rural-urban fringe and subject it to various tests.

Testing the Hypotheses

Informal observations of residents of a number of rural-urban fringe areas suggest that there is a considerable range of satisfaction-dissatisfaction toward residence location in the fringe area and that comments regarding the degree of adjustment are easily elicited. We have suggested that these differences in satisfaction may give us clues about the factors involved in residence-location activities, and have derived two broad working hypotheses relating differential satisfaction to certain

variables alleged to be of importance in residence location. These hypotheses will now be reformulated into a number of specific corollary propositions capable of being tested empirically.

The Hypothesis of Accessibility. This hypothesis holds that satisfaction with residence location is directly related to the accessibility of the location to the focal point of interaction, the city center. A number of corollary null hypotheses follow. Tests of these specific propositions should provide a basis for evaluating the acceptibility of the more general statement.

Chi square will be the test of significance. An hypothesis of no relation between two factors will be rejected if the computed value of chi square is sufficiently large to be significant at the 5 per cent level or beyond.[30] Ideally, where the hypothesis is rejected there should be some measure of the *degree* of association. However, since no measure has been developed which yields an unambiguous result for contingency tables,[31] degree of association will not be treated. In all cases degree of satisfaction with residence location in the rural-urban fringe will be measured by the Rural-Urban Residential Preference Scale, an original scale which for convenience will be referred to hereafter as the RURP scale.[32] The null hypotheses follow.

(1) There is no significant relationship between distance of the residence from the city center according to one-mile concentric zones and degree of satisfaction with residence location in the rural-urban fringe. (A variety of phenomena has been shown to vary according to distance from the city center; in this case the relationship would be expected to be inverse in accord with the hypothesis of accessibility.)

(2) There is no significant relationship between the average time spent daily by males traveling to and from work and the degree of their satisfaction with residence location in the rural-urban fringe.

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[30] Such a value of chi square would indicate that in our sample the degree of relationship between the two factors being examined is so great we would expect it to occur by chance variation less than five times in one hundred. Or, as Fisher says, "the departures from proportionality are not fortuitous." R. A. Fisher, *Statistical Methods for Research Workers* (London, 1930), p. 87.

[31] For example, *C*, the coefficient of mean square contingency, has an upper limit which varies according to the number of cells in the contingency table and thus is difficult to interpret. Margaret J. Hagood, *Statistics for Sociologists* (New York, 1941), pp. 508-514.

[32] The construction and validation of this scale is discussed later. See Appendix C. We might expect that extent of accessibility or the presence or absence of any other factor would be most clearly reflected in the resident's attitude toward his specific residence site. In using an instrument designed to measure attitude toward the rural-urban fringe, we are anticipating that satisfactions or dissatisfactions engendered by experiences with a limited number of specific residence locations will be generalized for the entire fringe area.

(3) There is no significant relationship between the usual length of time required by housewives in traveling to the center of town and the degree of their satisfaction with residence location in the rural-urban fringe. (Null hypotheses (2) and (3) are attempts to at get the *time* dimension of the ecologist's time-cost aspect of accessibility. An inverse relationship would support the general hypothesis.)

(4) There is no significant relationship between degree of satisfaction with residence location in the rural-urban fringe and freedom of transportation and communication as measured by the presence of an automobile available for use during the day, a telephone in the home, and a bus line within one-quarter mile of the residence.

While other propositions could be tested in relation to the hypothesis of accessibility, it is felt that the four proposed here give a better basis for evaluating the importance of accessibility in relation to satisfaction with residence location than has ever before been available.

The Hypothesis of Sociocultural Influences. This hypothesis was designed to permit evaluation of the relationship between satisfaction with fringe-area residence and each of a variety of social or cultural factors. As a basis for accepting or rejecting the general hypothesis, a series of corollary propositions is formulated as null hypotheses. Each of these lends itself to empirical testing and each is so related to the general hypothesis that its rejection or acceptance will throw some light on the acceptibility of the general position. Again chi square will be the test of significance. To avoid confusion, the numbering of propositions will be continued in sequence with those suggested earlier.

(5) Satisfaction with residence location in the rural-urban fringe is not significantly related to the sex of the resident.

(6) Satisfaction with residence location in the rural-urban fringe is not significantly related to the age of the resident.

We should emphasize that the concern in hypothesis (5) and (6) is not with biological aspects of sex or maturation, but rather with the social statuses and roles which in our society are associated with given age and sex groups.

(7) Satisfaction with residence location in the rural-urban fringe is not significantly related to the occupation of the head of the house.

(8) Satisfaction with residence location in the rural-urban fringe is not significantly related to the income of the family.

(9) Satisfaction with residence location in the rural-urban fringe is not significantly related to the social status of the resident. (This is a

variation of the two preceding propositions. A measure of social status will be discussed in the next section.)

(10) Satisfaction with residence location in the rural-urban fringe is not significantly related to social participation. (Two tests will be made: concerning extent of social participation, and concerning the extent to which social participation is town or fringe centered.)

(11) Satisfaction with residence location in the rural-urban fringe is not significantly related to the type of residential environment to which earlier conditioning took place. (Tests will involve the following data: whether the last previous address was urban or rural, whether the residence on Pearl Harbor Day was urban or rural, whether the childhood residence was urban or rural.)

(12) Satisfaction with residence location in the rural-urban fringe is not significantly related to the home situation. (Tests will involve the following data: amount of land possessed, home tenure, monthly rental, extent of bathroom facilities, extent of cooking facilities, presence or absence of a family garden, and extent of garden planned for following summer.)

We have now proposed for testing a rather lengthy series of propositions involving a wide sampling of social and cultural factors about which it is rather easy to collect data. Observation and recording must involve a certain standardized procedure, however, if the results are expected to stand up under analysis. Let us turn our attention at this point to the instruments of observation which were utilized in this study.

The Necessary Instruments

In order to record in reliable fashion certain data required for the testing of the hypotheses, a number of instruments of observation were used. Where devices having demonstrated reliability and validity were available, use was made of them. To meet one need an original scale was developed. Because the score on this scale serves as the index of satisfaction of respondents with residence location in the fringe area and is therefore crucial to our entire study, the procedure of construction and validation is described in detail in Appendix C.

The Rural-Urban Residential Preference Scale. The central problem in analyzing patterns of adjustment to residence in the rural-urban fringe area is that of placing individuals in rank order in terms of the degree of satisfaction with fringe residence. The criterion of adjustment decided upon was a score based on the pattern of responses to certain statements regarding the fringe area. It seemed desirable that the scale

be such that (1) from the rank-order score of a person his responses to all the items in the scale could be reproduced within a known margin of error, and (2) a simple correlation between the rank-order score and an external criterion would be equal to the multiple correlation between all the items of the scale and that criterion. Procedures are known for producing such a scale.[33]

The Rural-Urban Residential Preference Scale (RURP) was developed by use of the Cornell technique. Analysis of content revealed a reproducibility of about 87 per cent.[34]

The Social Status Scale and the Social Participation Scale. From the beginning of the study the hypothesis was held that attitude toward living in the rural-urban fringe might be related to social status and the extent to which the individual participated in the organized social life of the community. To measure these two dimensions the schedules developed by F. Stuart Chapin[35] were utilized. These schedules have the following advantages: (1) they are standardized tests with considerable previous use,[36] (2) norms are available for comparative purposes,[37] and

[33] Louis Guttman, "The Cornell Technique for Scale and Intensity Analysis," in C. West Churchman et al., *Measurement of Consumer Interest* (Philadelphia, 1947), pp. 60-84. See also, by the same author, "A Basis for Scaling Qualitative Data," *American Sociological Review,* IX (Apr. 1944), 139-150. For somewhat different approaches, see Louis Guttman, "The Qualification of a Class of Attributes: A Theory and Method of Scale Construction," in Paul Horst et al., *The Prediction of Personal Adjustment,* Social Science Research Council Bulletin 48 (New York, 1941), pp. 319-348; Ward H. Goodenough, "A Technique for Scale Analysis," *Education and Psychological Measurement,* IV (Autumn 1944), 179-190; Leon Festinger, "The Treatment of Qualitative Data by Scale Analysis," *Psychological Bulletin,* XLIV (Mar. 1947), 149-161; E. William Noland, "Worker Attitude and Industrial Absenteeism: A Statistical Approach," *American Sociological Review,* X (Aug. 1945), 503-510.

[34] In view of the more rigorous definition of scalibility which sets a minimum of 90 per cent reproducibility for a scale, the RURP is technically a quasi-scale. (See Appendix C). As a matter of convenience it will be referred to as a scale in this paper.

[35] F. Stuart Chapin, *Social Participation Scale* (Minneapolis, 1937); *The Social Status Scale,* 1936 revision (Minneapolis, 1936); *Contemporary American Institutions* (New York, 1935), and 1946 ed., reprinted by William C. Brown, Dubuque, Iowa, pp. 373-397; *Experimental Design in Sociological Research* (New York, 1947), *passim.*

[36] See especially George A. Lundberg and Margaret Lansing, "The Sociography of Some Community Relations," *American Sociological Review,* II (June 1937), 318-335; George A. Lundberg, "The Measurement of Socio-Economic Status," *American Sociological Review,* V (Feb. 1940), 29-39; George A. Lundberg and Mary Steele, "Some Social Attraction Patterns in a New England Village," *Sociometry,* I (Jan.-Apr. 1938), 375-419.

[37] F. Stuart Chapin, *Experimental Design in Sociological Research,* pp. 191, 195. New weights for items on the Social Status Scale have been worked out by Guttman. In spite of the presumably greater validity of these new weights, they were not used in the present study because of the lack of norms for the resulting scores. See Louis Guttman, "A Revision of Chapin's Social Status Scale," *American Sociological Review,* VIII (June 1942), 362-369.

(3) they provide quantitative scores which can easily be correlated with attittude and other scores.

The Schedule Proper. Since this study was to be concerned with identifying those factors, if any, which could be demonstrated to be associated with the attitude of the fringe resident toward his residential location, data were gathered on a rather large number and variety of factors which were hypothesized to bear this relationship. Several changes were made after discussions with members of interested local agencies, and still further revisions were found necessary after a number of fringe residents had been interviewed on a pretest basis. All but a few of the items in the schedule were coded for punch-card equipment; the ease with which the interviewer could record a response by simply circling the coded number tended to compensate for the somewhat longer than usual schedule. Bureau of the Census definitions of regional divisions and occupations were used.

Chapter III

UNIVERSE AND SAMPLE: THE AREA OF STUDY AND ITS POPULATION

THE drainage basis of the northward-flowing Willamette River has been described as "a natural sub-state region with all the characteristics of true regionality . . . a natural region in the truest sense."[1] Approximately 125 miles long and 20 to 40 miles wide, the valley is enclosed on three sides by mountain ranges and bordered on the north by the Columbia River. The Coast Range separates the valley from the narrow coastal strip and the Cascades stand between it and the arid sagebrush-covered slopes and irrigated valleys of eastern Oregon. To the south the valley loses itself in the Calapooya Mountains. The level valley floor encompasses some 4,000 to 5,000 square miles.[2]

The only natural gateway to the Willamette Valley is its mouth, where the city of Portland straddles the Willamette River just before it empties into the Columbia. Other avenues of access follow streams and traverse low passes through the mountains. The main flow of traffic, as in the earliest days of white settlement, is north and south along the main axis of the valley.[3]

The lower half of the Willamette Valley is considerably narrower than the broad flat-floored upper portion. In the upper half of the valley the river system is characterized by "meanders," oxbow lakes or bayous,[4] and "yazoo" streams which wander along parallel to the Willamette through miles of swampy country before finally effecting juncture with the main stream. These characteristics are such that nearly every year since the first recorded major flood in 1861 some portion of the valley has been flooded. It has been estimated that nearly a million acres of potentially valuable farm land in the valley are unsuitable for agriculture "because of excess water, either within the soil or on top of it."[5] The spatial patterning of land use, both residential and agricultural, has been greatly influenced by the excess of water in the soil in some

[1] Oregon State Planning Board, *The Willamette Valley Project* (Portland, 1937), p. 5. This comprehensive report has been drawn on heavily for the discussion of the topography of the region.

[2] *Ibid.*, p. 40.

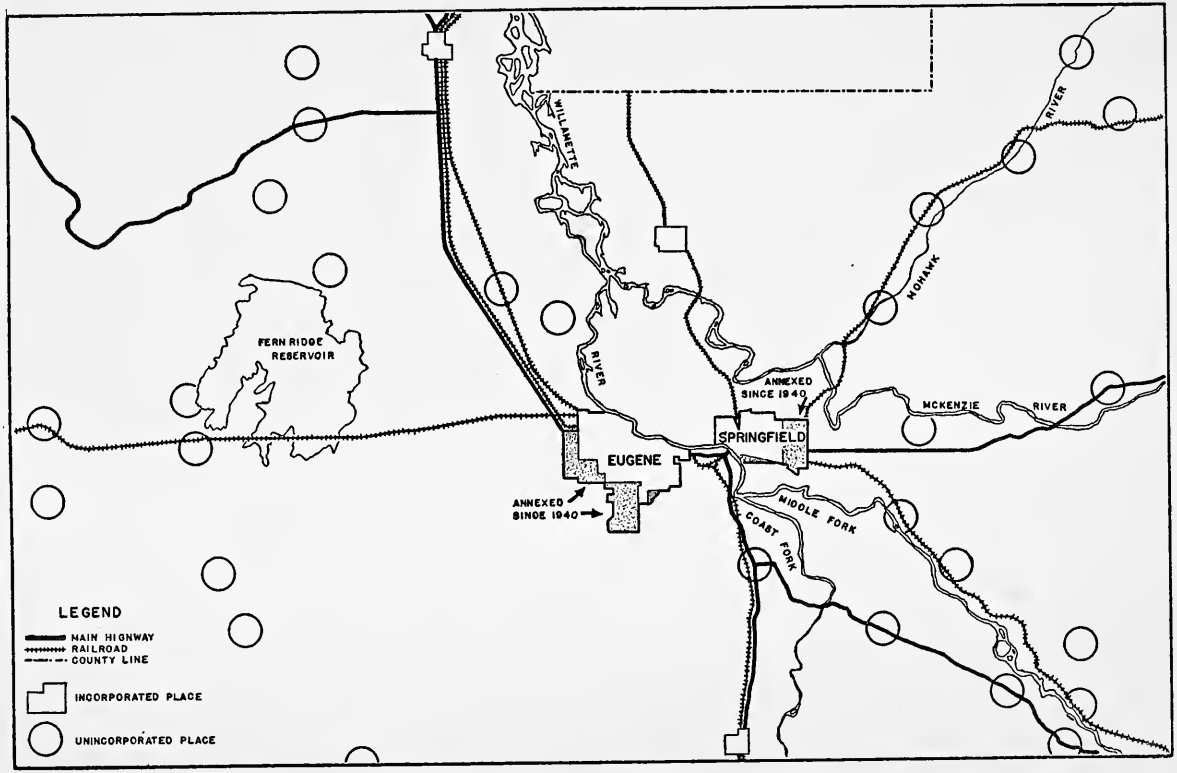
[3] *Ibid.*, p. 40.

[4] See the upper portion of Map I. The Willamette has been called "one of the best examples of a 'braided' stream in the United States." Warren D. Smith, "Geological and Economic Elements in the Willamette Valley Project," *Commonwealth Review*, XX (May 1938), 456.

[5] *Ibid.*, p. 449.

MAP I

THE EUGENE-SPRINGFIELD AREA: 1949



areas and the periodic flooding of land in others. Flood control remains today one of the major problems which the valley residents face.

The cities of Eugene and Springfield are located in the upper regions of the Willamette Valley about 125 miles south of Portland. In this general area the Mohawk and the McKenzie rivers join with the Middle Fork and the Coast Fork of the Willamette to send their waters northward to the Columbia. Out of the pioneer settlements of the 1840s developed the adjacent cities of Eugene, incorporated in 1862, and Springfield, which became an incorporated place in 1885.[6] The location of these settlements at the confluence of the several river valleys and astride the main route of north and south traffic has been a fortunate one,[7] with Eugene continuing to maintain its early advantage. During the 1870s the state university was located in Eugene to become the city's largest payroll. In the same decade the Willamette River Transportation Company was established to replace by systematic navigation from Eugene to the mouth of the Willamette the occasional boats which had been seen on the river as early as 1850.[8] The importance of river transport for Eugene can be seen in the launching of the stern-wheeler "City of Eugene" in 1899 after the railroads were well established—this in spite of the fact that navigation as far up the river as Eugene was impossible during low-water summer months and had to be given up entirely when the channel filled up in 1905.[9] While river transportation played an important part in Eugene's growth, the coming of the railroads in the 1880s is the important factor in the area's development. Map I clearly shows Eugene as a transportation center for both highway and rail transportation.[10]

The lumber industry has been the mainstay of the Eugene-Springfield economy and the increased demand for lumber for war purposes and for postwar building is the important factor in the rapid growth of population in this area during the last decade. Since 1946 more lumber has been cut each year in Lane County than in any other county in the United States.[11] Recent figures indicate the need for greater diversification of industry in the area. Of wages paid in 1947 to workers in Lane County

[6] A. G. Walling, *Illustrated History of Lane County, Oregon* (Portland, 1884), Chap. XXXVI.

[7] "The geography of Eugene is its greatest asset." Warren D. Smith, "The Physical and Economic Geography of Oregon," *Commonwealth Review*, VII (Oct. 1925), 184.

[8] "Memories of the Turn of the Century—The Story of Eugene's River Steamboat," *Eugene Register-Guard,* Mar. 20, 1949, pp. 1, 4.

[9] *Ibid.*, p. 4.

[10] "The Southern Pacific Company maintains yards—fifth in importance in its entire system—in Eugene, employing approximately 2000 men and women, with an annual payroll of more than $5,000,000." Eugene Water Board, *1946 Annual Report and Data Book* (Eugene, 1947), p. 4.

[11] *Ibid.*, p. 4. Also conversations with local businessmen and officials.

covered by the state unemployment compensation laws, 60 per cent was paid by manufacturing industries; of wages in manufacturing, 89 per cent was paid by the lumber industry.[12] However, the importance of diversified farming in the area must also be recognized.[13]

Eugene, third in size among Oregon's cities, has for some time been known as "Oregon's second largest market." Because of its favorable position as a transportation center in a prosperous region 75 miles distant from a larger city, Eugene has developed a large and thriving trade area.[14] The city is far more influential and metropolitan in character than the usual city of around 36,000 population. One obvious metropolitan trait is the concentration of heterogeneous land uses around the periphery of the city. This fringe is shared by Springfield, a smaller city than Eugene but an even more rapidly growing one, and one even more plagued by growing pains.[15]

These two cities are not presented as "typical" American cities in the sense that they do not deviate from some idealized urban pattern.[16] It is much more meaningful to talk about types of cities rather than typicality, but unfortunately a satisfactory typology of cities has not yet been developed. In lieu of such a typology we can only reiterate that we deal here with two neighboring, rapidly growing, Far Western cities, one some three and a half times the other in population. Our main concern with these cities is that they share in common, among other things, a fairly heavily settled rural-urban fringe of rather recent origin. While

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12 "Lumber Rules County Economy," *Eugene Register-Guard,* Apr. 28, 1949, p. 5c. The instability of this economic base is indicated by an article on the same page, "Handle Company in Springfield Is One of Nation's Largest," which describes a local wood-products concern which settled in Springfield three years before. Of particular significance is the fact that, during its twenty years of existence, this company had twice been compelled to move from other areas as the logging industry folded up. That this danger is recognized in Lane County is shown by the development of a successful sustained-yield program in the area.

13 For the best available description of the general economic situation, see Warren D. Smith, Wesley C. Ballaine, and Bernard Goldhammer, *The Economic Base for Power Markets in Lane County, Oregon,* Bonneville Power Administration, in cooperation with the Central Lane Planning Commission, Feb. 1946.

14 In 1946 Eugene alone accounted for better than 79 per cent of dollar volume of retail trade in Lane County. "Eugene's Place as Trade Center," *Eugene Register-Guard,* Dec. 24, 1947, p. 4.

15 During the period 1940 to 1950 Eugene's population increased from 20,838 to 35,879, or 72 per cent, while Springfield's jumped from 3,805 to 10,807, a 184 per cent increase. For both cities the increase in population is partially due to annexation (See Map I). During the same period the population of Oregon increased 40 per cent and that of Lane County 82 per cent, mostly in the Eugene-Springfield area. Bureau of the Census, *1950 Census of Population Advance Reports,* series PC-8, No. 36 (Washington, D. C., Aug. 10, 1951). "Estimates of Population for the State of Oregon for 1948-1960," *PACBIR,* Pacific Coast Board of Intergovernmental Relations.

16 Actually they deviate considerably even one from another, and various differences real or alleged are common knowledge of residents of both cities.

we are not able at this time to demonstrate the soundness of the position, we would expect that the forces which produced this peripheral settlement for Eugene and Springfield are not radically affected by modest variations in the urban pattern. In other words, while we exercise all due caution in limiting our conclusions to our universe of study, it seems almost certain that future research will demonstrate the greater generality of our findings.

The Universe

The area designated for study as the Eugene-Springfield rural-urban fringe comprises all territory contiguous to, but exclusive of, the incorporated areas of the two cities and characterized by extensive interpenetration of rural and urban land use with residential rather than predominantly agricultural land use. This is an area of rapid and uncontrolled population expansion in which older and well-established neighborhoods with considerable community spirit mingle with solid blocks of new, jerry-built homes, large trailer camps and tourist-cabin developments, and rural slums of tar-paper shacks and tents.[17] It is an area of contrasts and extremes, a speeded-up version of fringe development in older areas of the country.

As is usually the case with functional areas such as the metropolitan region or the village trade area, this fringe does not coincide even approximately with the minor census divisions used for the decennial census. The rural election precincts in use at the time the study was carried out were so large that the outlying portions were almost completely rural farm in nature. While the crudeness of inspection as a basis for delimiting an area was recognized, it soon became evident that inspection was the most feasible method in the present case. Two factors made it possible to define the study area satisfactorily by this means. First, a recent map was available showing the location of single-family residences for the entire Eugene-Springfield area.[18] Second, natural barriers such as rivers and mountains served to some extent to contain the fringe area.

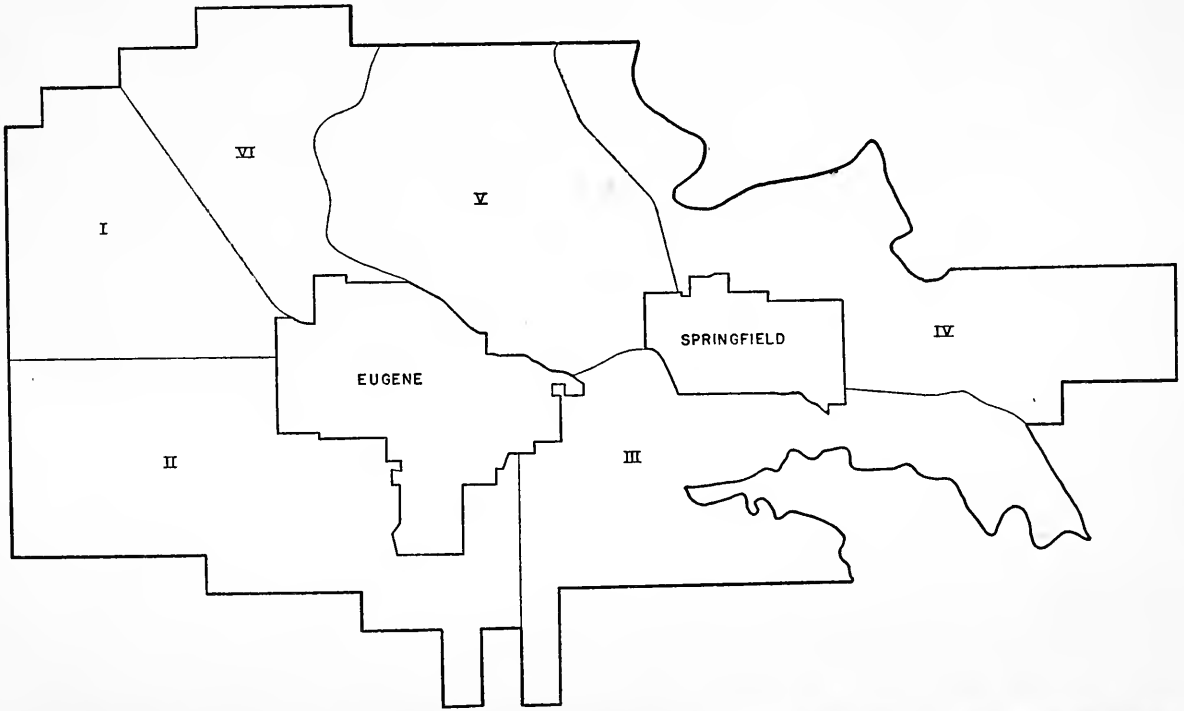
The pattern of residences on the map in relation to the topographical barriers made it relatively easy to ascertain through firsthand observation just where the patterns of land use characteristic of the fringe

[17] Undoubtedly the growth of the fringe area is related to the inability of the two cities to house the expanding population. In 1946, prior to much of the expansion, it was estimated that only .6 per cent of the urban houses were vacant and habitable. Bureau of Census, "Survey of Housing of World War II Veterans and Dwelling Unit Vacancy and Occupancy in Eugene and Springfield, Oregon," *Population*, HVet-No. 5 (July 20, 1946). For a more recent study see George A. Heddinger and Walter T. Martin, *Eugene-Springfield Housing Survey*, Housing Authority of Lane County (Eugene, June 1950).

[18] Prepared in 1946 and revised in 1948 by the Central Lane County Planning Commission.

MAP II

THE RURAL-URBAN FRINGE STUDY AREA WITH MAJOR CENSUS DISTRICTS



changed to the dispersed pattern of open-country farming. In many cases the change was surprisingly abrupt and clear cut, with closely built suburban homes suddenly replaced by nut and fruit orchards, alfalfa fields, and pasture lands. After consultation with interested persons and some minor alterations, this region as defined in terms of section lines and certain natural barriers was adopted as the study area.[19] As finally defined, and excluding the two incorporated places, the study area includes nearly 73 square miles. It is with the population of this large area and its adjustment to residence in the fringe that this study concerns itself.

The Sampling Procedure

As pointed out in Chapter I, one of the main criticisms which can be directed at studies which have been made of the fringe area is that totally inadequate sampling procedures have been followed. While the general design of the sample used in the present study was dictated by limited resources and the almost complete lack of knowledge about the composition of the population to be studied, a determined effort was made to follow procedures which would result in an adequate and representative sample.[20] Area sampling was adopted as the method which most effectively minimizes personal selection on the part of the interviewer.

In general this sampling procedure is based on the following reasoning: given a specifically defined area of study divided into well-defined and numbered subareas or primary sampling units and a complete census of the dwelling units included in a random sample of these subareas, it is possible (1) to estimate characteristics of the population of the entire study area and (2) to state the precision of these estimates. Furthermore, it is possible to increase the precision of these estimates in a number of ways, such as by interviewing at only a sample of dwelling units for each of a large number of selected subareas rather than taking a complete census of all dwelling units for a smaller number of subareas.

In this survey the total study area was divided into six major subdivisions designated as census districts and composed of quarter sections, the adopted primary sampling units.[21] A sample of the fringe population was obtained by first selecting a random sample of quarter sections from each of the census districts and then a subsample of dwelling units from each of the selected quarter sections. Interviewers were permitted no choice of dwelling units; contacts were made only at designated dwelling units. No substitutions were made where residents could not

[19] See Map II.

[20] For those interested in the details of the procedure, a more comprehensive discussion is presented in Appendix A.

[21] See Map II.

be contacted or where they refused to give the desired information. Since most of the information desired was census-type data which could usually be supplied by any responsible adult member of the household, no particular procedure was followed in selecting respondents within the designated dwelling unit.[22]

Interviewing began February 18, 1949 and for the most part finished by the end of the following month.[23] Clean-up operations continued on a smaller scale for another two months. Table I shows the degree of success in completing interviews at the designated dwelling places.

TABLE I. NUMBER OF ATTEMPTED AND COMPLETED INTERVIEWS, REFUSALS, AND NO CONTACTS, ACCORDING TO MAJOR CENSUS DISTRICTS

1	2	3	4	5	6	7	8
I	145	125	86.2	13	9.0	7	4.8
II	172	148	86.0	17	9.9	7	4.1
III	92	81	88.0	9	9.8	2	2.2
IV	163	145	89.0	15	9.2	3	1.8
V	156	130	83.3	21	13.5	5	3.2
VI	232	203	87.5	19	8.2	10	4.3
Total	960	832	86.7	94	9.8	34	3.5

Column 1: census district.
Column 2: total number of interviews attempted.
Column 3: number of interviews completed.
Column 4: per cent of interviews completed.
Column 5: number of no contacts.
Column 6: per cent of no contacts.
Column 7: number of refusals.
Column 8: per cent of refusals.

Undoubtedly the proportion of no contacts and refusals could have been reduced further through continued intensive field operations. Interviewing was halted when it became apparent that costs in time and money were increasing considerably while returns in the form of completed schedules were diminishing so rapidly as to no longer justify continued expenditures. With the remaining residences widely scattered over an area (including the two towns) of some 100 square miles, the cost per completed schedule became prohibitive. In practically 100 per cent of the remaining cases, however, two efforts were made to contact members of the household, and in nearly 90 per cent of the cases three

[22] An exception to this was the procedure followed to obtain a representative sample of males and of females for the Rural-Urban Residential Preference Scale. See Appendix A.

[23] Students from classes in "Social Research" and "Human Ecology" participated as interviewers in the survey. Operations in each of the six major census districts were under the surveillance of a graduate student serving as field supervisor.

attempts were made. While the composition of the 128 households where interviews were not completed presumably differs to some extent from that of the 832 households where interviewing was successful, it is felt that the individuals and families on which data were compiled are quite representative of the population of the defined study area.[24]

Some Comments on the Characteristics of the Sample

Lane County has been experiencing a very decided growth in population during recent years, a growth which has been markedly noticeable in the area of concern to this study. Because of this very rapid expansion in the fringe population, it seems desirable to devote a section to answering three general questions about this population: (1) How large is the population? (2) Where have these people come from? (3) What are the reasons they give for settling in the fringe area?

The Size of the Population. The procedure followed in obtaining an estimate of population size is outlined in Appendix B. Computed on the basis of an equation developed by the Bureau of Census for use with area sampling and later modified by Jahn[25] for use with a variable sampling rate, the estimated population in the fringe area is 29,360. The variance of this estimate is not known but an estimate of variance was computed.[26] The estimated variance thus obtained is 7,377,593, yielding a standard deviation of 2,716. That is, if a similar sample were drawn, the chances are 95 out of 100 that the population estimate would be included within the limits set by $29{,}360 \pm 5{,}432$.[27]

Migration and Mobility. Since development of community services and organized activities must necessarily presume a sufficient stability of population to permit the development of common folkways, interests, and customary procedures, the patterns of migration and mobility characteristic of the fringe population are of considerable interest. An area populated by recent arrivals drawn from all over the nation and all strata of society, and having little in common but home-seeking activi-

[24] Unfortunately, for this functional area there are no external criteria against which the composition of the sample population can be checked.

[25] Julius Jahn, "Principles and Methods of Area Sampling Applied to a Survey of Employment, Housing, and Place of Residence of White and Non-White Ethnic Groups in Seattle, Washington, July to October 1947," unpublished Ph.D. dissertation, University of Washington, 1949.

[26] The Sampling Staff, Bureau of the Census, *op. cit.*, pp. 42-50.

[27] This 1949 estimate deviates but little from the best estimate which can be made on the basis of the 1950 census. According to the census the election precincts adjacent to Eugene and Springfield have a population of 32,995. These large tracts include considerable farm land and several small communities beyond our study area. If this nonfringe population is allowed for, the resulting estimate is extremely close to our figure. "Subtract 577 and Add 693," *Eugene Register-Guard,* Mar. 9, 1951, p. 6.

ties, presents entirely different problems of adjustment to the individual than does the stable, structured community with its well-recognized norms of behavior.

TABLE II. MIGRATION PATTERN OF A SAMPLE OF EUGENE-SPRINGFIELD FRINGE RESIDENTS, 1949

Location	Last Previous Address		Address Dec. 7, 1941	
	Number	Per Cent	Number	Per Cent
Local suburban area	153	18.4	196	23.6
Adjacent urban area	275	33.1	143	17.2
Elsewhere in Oregon	184	22.1	159	19.1
California	51	6.1	67	8.1
Washington	46	5.5	53	6.4
New England	2	0.2	1	0.1
Middle Atlantic	2	0.2	5	0.6
South Atlantic	9	1.1	8	1.0
North Central	61	7.3	97	11.7
South Central	18	2.2	44	5.3
Mountain	25	3.0	38	4.6
Other	6	0.7	20	2.4
Not given	0	0.0	1	0.1
Total	832	99.9	832	100.1

Certain information regarding the migration patterns of the fringe population is presented in Table II. The first two columns, concerning the last previous address of families in the sample, reveal that 73.6 per cent of these addresses were in the state of Oregon, 51.5 per cent in the general Eugene-Springfield area. More than one-fourth were reported to have moved directly from outside the state, nearly 12 per cent from Washington and California alone. The last two columns show that on Pearl Harbor day 40.1 per cent of the families were living outside Oregon, 59.2 per cent outside the Eugene-Springfield area.

Probably just as important in terms of stability of the community as migration is the extent of mobility of families within the community itself.[28] Table III, combining long-distance moves with short moves with-

[28] "Mobility is an important factor in decreasing community consensus. The degree of mobility in the community is an important index of the consensus existing between its members, indicating the 'pulse of the community.' Individuals and families who are constantly moving from place to place fail to identify themselves with local institutions or to take any vital part in institutional life. Families who change their residences from one part of the community to another and from one city to another never acquire the deep sense of 'belonging' which is so necessary to good citizenship. The personal life organization of such individuals tends to be unstable. Their children fail to develop many of the close primary ties which are the product of settled community life. The result is 'the marked impairment of those elements in social organization in a democratic culture which depend heavily upon the individual's feeling himself to be rooted in the subsoil of neighborhood and community and therefore personally committed to participating in terms of *its* problems and *its* future.'" Mable A. Elliott and Francis E. Merrill, *Social Disorganization* (New York, 1941), pp. 794-795, citing Robert S. Lynd and Helen M. Lynd, *Middletown In Transition* (New York, 1937), p. 188.

in the local area, provides an impressive commentary on the instability of the fringe population. Of the sample, 31.2 per cent reported that they had lived in their present residence less than one year, 45.1 per cent less than two years, 61.6 per cent less than three years, 71.8 per cent less than four years, and 76 per cent less than five years. Of the 832 families, 76 per cent reported moving into their present residence since the spring of 1944!

TABLE III. LENGTH OF TIME AT THE PRESENT ADDRESS FOR A SAMPLE OF EUGENE-SPRINGFIELD FRINGE RESIDENTS, 1949

Years	Number	Per Cent
Less than 0.50	116	13.9
0.50-0.99	144	17.3
1.00-1.99	116	13.9
2.00-2.99	137	16.5
3.00-3.99	85	10.2
4.00-4.99	35	4.2
5.00-9.99	105	12.6
10.00 or more	91	10.9
Not given	3	0.5
Total	832	100.0

These figures probably describe better than any others the situation to which the fringe resident must adjust. The 40 per cent of the present fringe families that lived in or near Eugene or Springfield in December 1941 have seen a constant influx of migrants. Although the area grew considerably during the decade of the 1930s,[29] the older residents saw during the 1940s, as never before, the near-lying farms taken over by city dwellers or subdivided and presented as building sites—inexpensive, if they were in the low land where water lay in sheets over the mud in winter, expensive, if they were view sites on the brow of one of the rolling hills.

The older, stable, suburban neighborhoods expanded and lost some of their stability, new neighborhoods developed and became accepted, while in between the houses grew in number—little clusters, isolated shacks, and near-shacks whose inhabitants had no community ties. An estimated 30,000 people[30] live in this fringe area. Some have fine homes, some are located on state highways, some on county roads nearly impassable when the weather is bad; some have modern devices and conveniences in their houses, some only the barest crude essentials. Some of these people are dissatisfied and unhappy living out of town, others

[29] Eugene, 10.2 per cent increase; Springfield, 60.9 per cent. Lloyd M. Faust, *op. cit.*, p. 12.

[30] See Appendix B.

are extremely enthusiastic about life in the fringe. What are the reasons these people give for choosing such a residence?

Motivation. Two questions regarding motivation were asked respondents: (1) the *one* most important reason for choosing a home outside town; (2) the *one* most important reason for choosing the specific dwelling unit or site.[31] The responses to these questions are presented in Table IV.

TABLE IV. MAJOR REASON FOR RESIDENTIAL LOCATION IN THE EUGENE-SPRINGFIELD FRINGE AREA, 1949

Reason	Number	Per Cent
Less congested, more room	178	21.4
Better for children	145	17.4
Could not get a place in town	97	11.7
Near employment or business	62	7.5
Room for garden	59	7.1
Cheaper land	46	5.5
Have always lived outside town	27	3.2
Lower taxes	21	2.5
Lower rent	21	2.5
Freedom from building codes	19	2.3
Cleaner	12	1.4
Miscellaneous and no response	145	17.4
Total	832	99.9

These findings are not strictly comparable with those of other studies, since instead of asking for a listing of reasons we asked for the one major reason.[32] In regard to this difference, it is interesting to see that in Deweys' study[33] the most frequently listed reasons were (1) better for children, (2) less congested, (3) cleaner, (4) larger lot, and (5) lower taxes. For three election precincts in the Eugene fringe area Faust[34] found the following reasons given most frequently: (1) lower rents (for renters),[35] (2) acreage for farming or gardening, (3) cheaper land, site, or location (for owners), (4) freedom from building and land-use regulations, and (5) lower taxes (for owners). In spite of the differences in rank order in these comparisons, the similarities are great enough to suggest that under similar interviewing conditions highly

[31] An open-end question permitted the volunteering of additional and presumably secondary reasons.

[32] It is recognized that there may frequently be no "one most important reason"; but it seemed desirable to have the respondent attempt such an evaluation.

[33] "Peripheral Expansion in Milwaukee County," *op. cit.*, p. 121.

[34] *Op. cit.*, pp. 13-14.

[35] Since we did not classify reasons according to home tenure and since only 10 per cent of our families were reported as renters, this particular reason ranks very low on our list.

similar responses might be obtained, as least in fringe areas of cities within a given size range.

TABLE V. MAJOR REASON FOR CHOOSING PARTICULAR RESIDENTIAL SITE IN THE EUGENE-SPRINGFIELD FRINGE AREA, 1949

Reason	Number	Per Cent
Best buy at time	203	24.4
Only place available	151	18.1
Liked neighborhood	104	12.5
Close to work	62	7.5
Liked the house	52	6.2
Desirable lot size	36	4.3
Flood free	34	4.1
Close to town	26	3.1
Close to school	20	2.4
Already owned or inherited house or land	19	2.3
Close to transportation	8	1.0
Miscellaneous and no response	117	14.1
Total	832	100.0

According to Table V, present residents of this particular fringe area were largely influenced by availability and economic factors in choosing their present residential location. In view of the extremely crucial housing shortage in the area during the early postwar years, this was to be expected. Again, remembering that Dewey asked for reasons while we asked for major reason, a comparison of findings is possible. In Dewey's study the major reasons were ranked as follows: (1) best buy at time, (2) liked house, (3) close to school, (4) desirable lot size, (5) liked looks of subdivision, (6) only place available, (7) public transportation available, and (8) nearer to work.

Chapter IV

SPACE, ACCESSIBILITY, AND ISOLATION

IT IS commonplace to point to man as a gregarious animal and to isolation as a dreaded punishment. To an overwhelming extent man's hopes, fears, sorrows, and pleasures are conceived in terms of, and experienced in the midst of, interaction with other human beings. We might reasonably expect that the highly valued residence location would be that which facilitates frequent intimate contact with one's fellows and full participation in the associational activities of the community. Certainly it is not difficult to find evidence that the location which restricts or prevents such social interaction is to many an undesirable one. Comments from residents, particularly housewives, living in some of the more sparsely settled and less accessible parts of the rural-urban fringe point up very clearly the isolating nature of space.

It is not hard to see why a man may like to live in the country. At five o'clock when he's tired of the bustle and confusion of the office it is nice to be able to get away from it all. On his "country estate" it is quiet and cool and he can relax in an old pair of slacks—putter around in the flower beds or maybe mow the lawn. Next morning he is off to the crowded city leaving his wife alone—or in my case, alone with a two year old child. After a while you begin to feel that conversation with a two year old is about the extent of your ability!

The bus is six blocks away and runs once an hour. It is such a job getting down town and back that pretty soon you just give up and let the sales go by.

It's true you have the telephone but it's on an eight party line so that you are competing with seven other rapidly becoming neurotic housewives trying to call their friends. It certainly was a relief to move back into town where neighbors are close and there are other children for the baby to play with!

This would seem to be a good example of what an urban dweller was referring to when he remarked, "I always feel sorry for the wife when a family lives outside town. Maybe it isn't true in some cases but it has always seemed to me that they get the worst of it—left alone half the time with no way to get into town." Without holding that these are typical attitudes, one recognizes that satisfaction with fringe residence may vary with sex. Before testing the various propositions we have proposed in relation with the importance of accessibility, it is desirable that we examine this hypothesis, since it may be necessary to hold sex constant in future tests. Let us see how the distribution of scores for women on the RURP scale compares with that for men and then make use of the chi square test.

The Factor of Sex

Fortunately the desirability of testing the influence of the sex factor was anticipated and an effort made to obtain RURP scores from a representative sample of males and of females.[1] This permits the use of the same type of analysis that is followed throughout the remaining sec-

TABLE VI. DISTRIBUTION OF SCORES ON THE RURP SCALE ACCORDING TO SEX

RURP Score	Male		Female	
	Number	Per Cent	Number	Per Cent
0	2	0.5	3	0.7
2	1	0.2	9	2.0
4	7	1.8	9	2.0
6	7	1.8	15	3.4
8	6	1.5	22	5.0
10	20	5.1	39	8.9
12	38	9.7	55	12.6
14	49	12.5	78	17.8
16	53	13.5	62	14.2
18	63	16.0	56	12.8
20	35	8.9	35	8.0
Refused or incomplete	113	28.5	55	12.6
Total	394	100.0	438	100.0

tions. The data for the two relevant factors are arranged in a double-entry table or matrix, an hypothesis of no relationship between these factors is set up, and this null hypthesis tested with chi square.

Table VII[2] suggests that scores on the RURP scale may not be inde-

TABLE VII. GROUPED SCORES ON THE RURP SCALE DISTRIBUTED ACCORDING TO THE SEX OF RESPONDENT

Sex	RURP Scores			Total
	0-12	14-16	18-20	
Male	81 (−)	102 (−)	98 (+)	281
Female	152 (+)	140 (+)	91 (−)	383
Total	233	242	189	664

$\chi^2 = 12.5$ $P < .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

[1] It should be noted that, while the percentage of males classified as refusals or incompletes is more than twice that of females, this does not necessarily show greater cooperativeness on the part of the females. Typically women filled out the schedule during the interview, while much more frequently the schedules were left to be filled out and mailed by men not home at the time of interview. See Appendix A.

[2] It will be noticed that scores on the RURP scale have been combined quite

pendent of sex. For the males, 98 out of 281 or 34.9 per cent fall in the high-score enthusiastic group (scores 18-20) as compared to 91 out of 383 or 23.7 per cent of the females. In the low-score (0-12) category are found 28.8 per cent of the males and 39.7 per cent of the females. Chi square is a test which tells us what the probabilities are that association of the degree suggested here would be found by chance. The computed value of 12.5 for chi square at two degrees of freedom is large enough to tell us that the relationship between the two factors in Table VII would occur by chance in considerably fewer than the five times in one hundred which we have accepted as a criterion of significant relationship. In other words, if we selected a large number of similar samples we should expect to find these two factors showing no relationship in less than five samples in one hundred. We therefore reject the null hypothesis that sex and scores on the RURP scale are independent.

The rejection of the null hypothesis was substantiated repeatedly during the study. When respondents were asked "Which members of the family get the greatest pleasure and satisfaction out of living outside the city?" the wife was mentioned singly 38 times and the husband 89 times or two and one-third times as frequently. In response to a question about family members feeling "the most inconvenienced and dissatisfied" about fringe residence, the husband was named singly 30 times and the wife 152 times or five times as frequently. On the basis of these findings the factor of sex will be held constant in further tests of hypotheses.

Accessibility and Satisfaction

It seems appropriate at this point to present evidence that the fringe population is urban-oriented, since discussions of accessibility become relatively meaningless unless fringe residents actually do participate in many urban activities. We do not have detailed information in regard to this point, but that which can be abstracted from the study material is at least suggestive. Perhaps most significant of the data in Table VIII are those showing that, for both husbands and wives, more than three-

arbitrarily into three categories of somewhat similar size. While this results in the loss of certain detail, it reduces the matrix to a size much less space consuming and more easy to work with.

In the chi square test of independence the theoretical frequencies which would prevail for each cell of the matrix if the two factors were completely independent are calculated from the marginal totals. In each cell of a contingency table to which the chi square test has been applied, a positive or negative sign indicates the direction of the deviation of the observed frequency from the theoretical frequency, e.g., in Table VII it can be seen in the first RURP score column that fewer males (81) but more females (152) received a score of 12 or less than would be expected if RURP scores and sex were independent. This device facilitates visual analysis of the larger and more complex contingency table since the arrangement of plus and minus signs indicates whether a relationship is negative or positive.

MAP III

THE RURAL-URBAN FRINGE STUDY AREA WITH ONE MILE CONCENTRIC ZONES

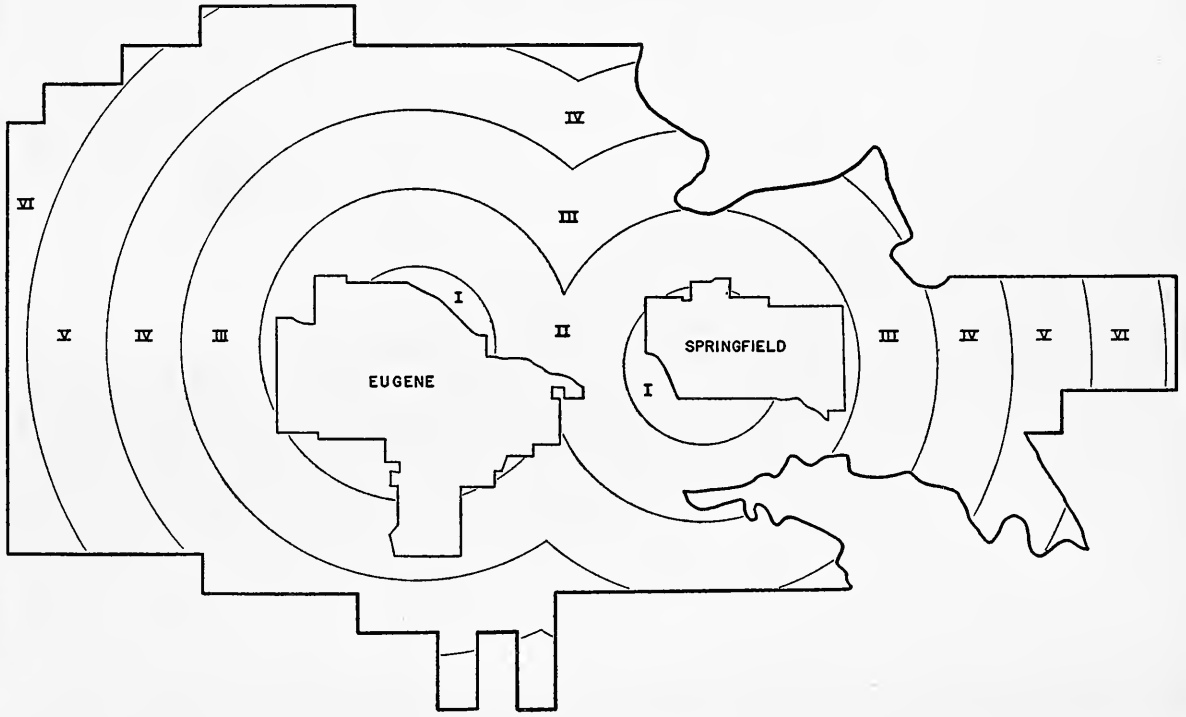


TABLE VIII. THE LOCATION OF SELECTED ACTIVITIES

Activity	City Location		Fringe Location		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
High-school attendance (number of families)	120	92.3	10	7.7	130	100.0
Formal associations of husband or male head	230	78.5	63	21.5	293	100.0
Formal associations of wife or female head	180	75.6	58	24.4	238	100.0
Husband's place of work	447	54.7	370	45.3	817	100.0
Grade-school attendance (number of families)	115	42.3	157	57.7	272	100.0
Family most frequently visited	302	39.8	456	60.2	758	100.0

fourths of all reported memberships in associations pertain to organizations holding their meetings in Eugene or Springfield. That 45.3 per cent of the husbands reported to be in the labor force have their place of occupation outside the cities is related partly to the shoestring development of business along the highways but more so to the heavy concentration of sawmills, lumber yards, and wood-products plants in certain areas adjacent to the cities. However, the majority of husbands travel daily to the city for their employment.

Considering the important role played by propinquity in visiting patterns, it is also important to note that nearly 40 per cent of the respondents reported that the family most often visited resided within the city limits.

In addition to the information presented in tabular form, it is of interest that, out of the 435 persons responding positively to a question regarding "the one greatest discomfort or inconvenience" of fringe residence, 343 or 72 per cent named distance from facilities, lack of transportation, inadequate roads, or some other factor having to do with frictions of space.[3] Inadequate as these data are as a description of urban orientation of fringe residents, they provide evidence that these families do not reside at the median location and that they have reason to be vitally concerned with access to the city center. Let us now see if degree of accessibility is reflected in RURP scores.

Concentric Zones. If satisfaction with residence location in the fringe area is closely associated with accessibility of the city center, this relationship should be observable when RURP scores are arranged according to location of the residence by one-mile concentric zones around the city center. In Table IX scores on the RURP scale for males are shown according to concentric zones.[4] Examination of the positive and negative

[3] See p. 70.

[4] Interpretation is made difficult by the two merging systems of zones. The presumption that the nearest city center is the important one is certainly unrealistic

TABLE IX. RESIDENCE LOCATION BY ONE-MILE CONCENTRIC ZONES RELATED TO RURP SCORES FOR MALES

Zone	RURP Scores 0-12	14-16	18-20	Total
I	11 (−)	14 (−)	16 (+)	41
II	30 (+)	30 (−)	33 (+)	93
III	12 (−)	21 (+)	20 (+)	53
IV	20 (−)	28 (+)	26 (+)	74
V	8 (+)	9 (+)	3 (−)	20
Total	81	102	98	281

$\chi^2 = 5.78$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

signs of the cells suggests that, except for the surplus of low-scoring individuals in Zone II, there is a slight relationship between low scores and distance from the city. However, the computed value of chi square does not even approach significance and the null hypothesis is not rejected.

Table X presents RURP scores for females related to zone of residence. While the value of chi square approaches the 15.51 required

TABLE X. RESIDENCE LOCATION BY ONE-MILE CONCENTRIC ZONES RELATED TO RURP SCORES FOR FEMALES

Zone	RURP Scores 0-12	14-16	18-20	Total
I	19 (−)	23 (+)	15 (+)	57
II	54 (+)	53 (+)	21 (−)	128
III	29 (+)	24 (−)	16 (−)	69
IV	30 (−)	31 (−)	27 (+)	88
V	20 (+)	9 (−)	12 (+)	41
Total	152	140	91	383

$\chi^2 = 11.34$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

with eight degrees of freedom more nearly than in the case of males, it is again not possible to reject the null hypothesis. The pattern of plus and minus signs suggests a curvilinear relationship.[5]

for those families whose occupational, recreational, and other activities are centered in the most distant and, in the case of Eugene, larger, city. Our data do not enable us to evaluate this distorting influence on our analysis.

[5] In an effort to obtain a less crude measure of distance to the city center, a map measurer was used to obtain for each of a subsample of 100 families the travel distance by what was considered the most likely route from the residence to the center of the nearest city. The degree of association was of the same order of magnitude as we have shown here for the concentric zones and the analysis was not extended.

Again, the mean RURP scores for males and females were computed by con-

Time Spent by Husband Traveling to Work. If accessibility is importantly related to satisfaction with residence in the fringe area, this might well be expected to be demonstrated when RURP scores are related to the time spent by husbands traveling to and from work. Of 817 families reporting a husband in the home, 98 or 12 per cent worked at

TABLE XI. AMOUNT OF TIME SPENT DAILY BY HUSBAND GOING TO AND FROM WORK RELATED TO RURP SCORE

Amount of Time in Minutes	RURP Scores 0-12	14-16	18-20	Total
Less than 30	27 (−)	37 (+)	40 (+)	104
30-59	23 (−)	31 (+)	31 (−)	85
60 or more	11 (+)	10 (−)	13 (+)	34
Total	61	78	84	223

$\chi^2 = .79$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

home, 447 or 54.7 per cent worked in Eugene or Springfield, 187 or 22.9 per cent worked in the fringe area but not at home, 60 or 7.3 per cent were reported to be retired, and a negligible number were unemployed or traveling. In Table XI time spent daily by males commuting to and from work is arranged in relation to RURP scores.

Analysis of the matrix indicates that the attitude of husbands toward the fringe area, at least as measured by our scale, is almost completely independent of time expended daily in traveling to work. This lack of relationship cannot be set aside lightly. The winter season with its flooded lands, muddy (in some cases almost impassable) roads, and in general poor driving conditions, was just drawing to a close at the time of the survey. That the distribution of scores for those spending an hour or more daily in overcoming the frictions of space differs no more than it does from the distribution of scores for those spending less than thirty minutes daily weighs heavily against the accessibility hypothesis.

The RURP scores of females are inversely associated with the time their husbands spend traveling to work. Fortunately the chi square value of 3.68 is not significant, so we are not compelled to discuss the various complications that such a finding, if significant, could lead to.

Time Required by Wives Traveling to City Center. We have already indicated that wives living in the fringe area are more likely to be aware of isolation and the frictions of space than are their husbands. The ques-

centric zones in hope that certain consistent trends, even though not statistically significant, would be revealed. While variations occurred in each case, no consistent trend was apparent either for males or for females separately or with the two combined. This was still true when the zones were combined in various ways to eliminate the categories with dangerously small frequencies.

tion aimed at tapping this awareness reads as follows: "On an ordinary weekday afternoon if you want to go down town to shop or visit how long does it take you to reach the downtown area traveling as you usually do?" Nineteen of the wives said they had no way of getting to town at such a time. The responses are related to RURP scores in Table XII.

TABLE XII. ACCESSIBILITY OF TOWN TO HOUSEWIVES RELATED TO RURP SCORES

Travel Time to Downtown Area in Minutes	RURP Scores 0-12	14-16	18-20	Total
Less than 15	65 (+)	47 (−)	32 (−)	144
15-29	57 (−)	75 (+)	42 (+)	174
30-44	13 (−)	12 (−)	10 (+)	35
45 or more or could not go	16 (+)	7 (−)	6 (−)	29
Total	151	141	90	382

$\chi^2 = 9.51$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

The pattern of deviations of observed from theoretical frequencies in this table suggests a curvilinear relationship between scores on the RURP scale and travel time to town but the chi square value of 9.51 is not significant. The surplus of low scores among those housewives requiring at least forty-five minutes to reach town, or not free to go at all on a weekday afternoon, is as anticipated, but the surplus of low scores among women in the first row refutes the hypothesis of accessibility.

The RURP scores for males when related to the time required by housewives to travel to town showed no consistent relationship. Chi square was .99.

Available Communication and Transportation Facilities. Up to this point we have tested the relationship between scores on the RURP scale (our measure of attitude toward the fringe area) and (1) distance of

TABLE XIII. MEANS OF TRANSPORTATION AND COMMUNICATION REPORTED ALWAYS AVAILABLE DURING THE DAY

Means of Communication or Transportation	Number	Per Cent
Telephone (only)	65	7.8
Automobile (only)	123	14.8
Bus within one-fourth mile (only)	80	9.6
Telephone and automobile	113	13.6
Telephone and bus	102	12.3
Automobile and bus	54	6.5
Telephone, automobile, and bus	263	31.6
Neither telephone, automobile, or bus	26	3.1
Not given	6	0.7
Total	832	100.0

residence from the city center, (2) time consumed by the husband traveling to work, and (3) time required by the housewife to reach the nearest city center. We now propose to test the availability of various communication and transportation facilities as a factor influencing satisfaction with fringe residence.

As shown in Table XIII, nearly one-third of the families in the sample had available during the day an automobile, a telephone, and a bus within one-quarter mile. Only 3.1 per cent reported none of these facilities. We can anticipate that, if accessibility is of any importance in influencing adjustment to fringe location, it will be apparent in the relation of RURP scores to the presence or absence of these devices for dealing with the frictions of space—and that, because of the differences in the socially defined roles of males and females in the home, it will be especially evident in the case of females.

Analysis of Table XIV shows that RURP scores for males are essentially independent of the regular availability for the home of three major means for contacting the city center or other focal points of interaction. This is not surprising, since the great majority of males are absent from the home during the daytime. In contrast, chi square for females is sufficiently large to be significant at the 5 per cent level and the null hypothesis can be safely rejected. The consistency of the relationship between availability of facilities and high scores is shown by the plus and minus signs.

TABLE XIV. MEANS OF COMMUNICATION AND TRANSPORTATION AVAILABLE DURING THE DAY RELATED TO RURP SCORES BY SEX

Number of Means Available	RURP Scores 0-12	14-16	18-20	Total
MALES				
All three	30 (+)	29 (−)	32 (+)	91
Any two	22 (−)	35 (+)	29 (−)	86
One or none	29 (+)	34 (−)	32 (−)	95
Total	81	98	93	272
FEMALES				
All three	36 (−)	54 (+)	35 (+)	125
Any two	54 (+)	49 (+)	21 (−)	124
One or none	54 (+)	36 (−)	32 (−)	122
Total	144	139	88	371

Males: $\chi^2 = 1.84$ $P > .05$
Females: $\chi^2 = 11.45$ $P < .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

The significance of fringe residence as an isolating factor is brought out by the data of Table XV. Out of the 666 individuals giving a re-

sponse, 131 or 19.7 per cent replied probably or definitely yes when asked if friends would visit them more frequently if they lived in town. In the case of females this feeling is significantly related to low scores on the RURP scale. The algebraic signs reveal a tendency toward the same relationship in the case of males, although chi square is not signifcant.[6]

TABLE XV. RURP SCORES RELATED, BY SEX, TO WHETHER OR NOT RESPONDENT FELT FRIENDS WOULD VISIT MORE FREQUENTLY IF HE LIVED IN TOWN

Would Friends Visit More Frequently in Town	RURP Scores 0-12	14-16	18-20	Total
MALES				
Uncertain, probably, or definitely no	62 (−)	89 (+)	83 (+)	234
Probably or definitely yes	19 (+)	14 (−)	15 (−)	48
Total	81	103	98	282
FEMALES				
Uncertain, probably, or definitely no	105 (−)	121 (+)	75 (+)	301
Probably or definitely yes	46 (+)	21 (−)	16 (−)	83
Total	151	142	91	384
Males: $\chi^2 = 3.45$	$P > .05$			
Females: $\chi^2 = 11.75$	$P < .05$			

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

Evaluation and Summary. The general working hypothesis we have been concerned with in this chapter, the hypothesis of accessibility, has held that satisfaction with residence location is directly and significantly related to accessibility to the city center. We can evaluate this hypothesis only in terms of the specific null propositions we have tested in connection with our rural-urban fringe data. The results of these tests are not consistent and evaluation is therefore rendered difficult.

It seems evident, however, that distance *per se*, that is actual geographic or linear distance from the residence to the city center, is not the major factor in determining the fringe resident's attitude toward living in the area.[7] In other words, if the city center is the generalized median location of residence, deviation from this median location is not reflected in attitudes so as to be observed unmistakenly and consistently by our instruments. Even when sheer distance is converted into time consumed in traversing the distance, which would tend to take into consideration the various modes of travel, the results are not impressive. There is no

[6] In this table the male's score is frequently related to the response of another family member, usually his wife.

[7] It is still possible that the factor of distance is closely related to the resident's evaluation of the specific location of his own home. However, the little evidence we have would not indicate this.

relationship, for example, between time spent daily by the husband traveling to work and his score on the RURP scale. The ten-, fifteen-, or even thirty-minute drive to work in the morning or home for the evening meal apparently is not enough to curdle the male's enthusiasm for fringe-area residence, and is, as a matter of fact, considered by many an enjoyable part of the day's routine.

Accessibility of the city center we judge to be an important factor in the housewife's satisfaction with residence location in the fringe, even though our data are ambiguous. The data suggest that only the more extreme type of isolation is associated with low RURP scales, but the clear-cut relationship between high scores and the presence of selected means of transportation and communication seems more impressive. It is particularly significant that scores of males, relatively few of whom experience the daily confinement to home and adjacent grounds which most women face almost daily, show nearly complete independence from the extent of freedom their wives have to communicate readily with persons outside the immediate neighborhood. The validity of these findings is attested by the number of homes in which the isolating influence for the wife of noncity residence is clearly recognized.

Only further research can decide the tenability of our major hypothesis. We can offer little if any evidence for rejecting the null statement in the case of males. For females the evidence is meager and far from conclusive. But we feel certain that more reliable instruments and improved analysis will demonstrate that we can safely reject the idea that the attitudes of women toward residence in the rural-urban fringe are independent of the degree of isolation they have experienced there.

In analyzing the factor of space we find that the important variables are those sociocultural ones which help to overcome the frictions of space and thus break down isolation and facilitate accessibility. There can be little doubt that sociocultural factors operate in other ways to bring about the settlement of the urban periphery and to maintain that fringe population in a state of satisfaction with its residential location. In the following chapter some of these factors will be examined.

Chapter V

SOCIAL ROLES AND COMMON ANTECEDENTS

IN DEVELOPING the hypothesis of sociocultural influences, we suggested that an understanding of residence-location activities could only be arrived at if the analysis included the value systems and other cultural patterns of the society to which the individual belonged. The hypothesis holds that, since values and the bases of evaluating develop out of prolonged conditioning to given cultural patterns, those persons attracted by, or expressing satisfaction with, any specified type of residence location will be characterized by common antecedents and other attributes which differentiate them from those who are dissatisfied with, or repelled by, the location. It is obvious that even for a single rural-urban fringe area an almost infinite number of sociocultural factors could be used in testing such a hypothesis. Fortunately the scientific method does not dictate such an impossibly laborous job. It permits us to select intuitively or on the basis of our theoretical orientation a sample of those items which we feel are most likely to be relevant to our question. The factors we have selected to test are those indicated in the section on the derivation of hypotheses.[1] They are classified in this chapter, sometimes in quite arbitrary fashion, under the headings of social roles and common antecedents. Situational factors will be dealt with in a separate chapter.

Roles and Adjustment to Residence Location

By "role" we mean the systematized and persistent pattern of behavior which characterizes the individual within his group.[2] Students of human behavior have found the concept of role of considerable value for the understanding of the individual's relatively stabilized and predictable responses; we may expect that roles are highly influential in residence-location activities. Since no intensive role analysis was carried out in the present study, we shall be forced to rely on certain specific attributes which we have reason to feel are closely associated with roles in our society. On the whole, however, the six factors we shall examine should cast some light on the influence of roles on activities related to residence location. These factors are: sex, age, occupation, social status, income, and social participation.

Sex. The importance of the differences in our society between the

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[1] Pp. 22-23.

[2] Ralph Linton, *The Study of Man* (New York, 1936), Chap. VIII; E. T. Hiller, *Social Relations and Structures* (New York, 1947), especially Chap. XXII.

home-centered role of the female and the work-centered role of the male is so great[3] that we have held the factor of sex constant in our analysis to this point. The null hypothesis that RURP scores are independent of sex can be rejected on the basis of the chi square value obtained in an earlier section,[4] so it is not necessary to repeat the test at this point. We have already referred at various places to the evidence presented by our data that females, more than males, are likely to express dissatisfaction with residence in the rural-urban fringe. While further research may tend to minimize the part played by sex roles in relation to locational activities in other types of residence areas, we would not expect such a finding for the fringe area.

Age. The changes in roles which accompany changes in age have been well explored and need not be reviewed here.[5] It is of interest to note, however, that residence location within the urban area tends to vary with age.[6] This suggests that the rural-urban fringe as a residence area may appeal particularly to some special age group and that age, therefore, is a significant factor in satisfaction with fringe residence. In order to test the null hypothesis that RURP scores are independent of age, scores are related to ages of males and of females separately in Table XVI.

While the value of chi square does not reach the 15.51 required at the 5 per cent level either for males or for females, the data of this table are extremely suggestive. Particularly for the males, the algebraic signs show that the surplus for males falls in the low-scoring column for those under thirty, shifts to the high-scoring column for those in their forties, only to return to the low-scoring column for those seventy years of age or more. Significantly, a similar pattern is found for the females, although it is among those in their thirties that the surplus is in the high-scoring column. The indication is quite clear that, whatever disadvantages the fringe area offers as a place of residence, the younger and the older adults (although probably for different reasons) are more likely to be sensitive to them than are those in their thirties and forties. The urban couple's dream of spending their later maturity on a "little place outside town" is likely to end in disillusionment when they come face to face with some of the inconveniences of life in the fringe. The significance of these findings should not be exaggerated however, since the null hypothesis remains tenable.

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[3] Hiller, *ibid.*, especially Chap. XXIX.

[4] Pp. 40-41.

[5] Kimball Young, *Sociology, A Study of Society and Culture,* 2nd ed. (New York, 1949), Chap. XXV; E. T. Hiller, *ibid.*, Chaps. XXIII to XXV.

[6] Calvin F. Schmid, *Social Trends in Seattle* (Seattle, 1944), pp. 88-97.

TABLE XVI. THE FACTOR OF AGE RELATED TO RURP SCORES BY SEX

Age in Years	RURP Scores 0-12	14-16	18-20	Total
Males				
Less than 30	20 (+)	16 (−)	15 (−)	15
30-39	22 (−)	35 (+)	33 (+)	90
40-49	13 (−)	16 (−)	17 (+)	46
50-69	16 (−)	31 (+)	28 (+)	75
70 or more	7 (+)	3 (−)	3 (−)	13
Total	78	101	96	275
Females				
Less than 30	38 (+)	33 (+)	18 (−)	89
30-39	49 (−)	45 (−)	35 (+)	129
40-49	28 (−)	34 (+)	21 (+)	83
50-69	30 (+)	25 (−)	15 (−)	70
70 or more	4 (+)	3 (−)	1 (−)	8
Total	149	140	90	379

Males: $\chi^2 = 9.78$ $P > .05$
Females: $\chi^2 = 4.72$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

Occupation. Some of the individual's most stable and persisting behavior patterns are built up around the function he performs in the division-of-labor complex. These functional roles are closely related to the prestige, social-class position, and general adjustment of the individual in the community[7] and are very likely to be important in relation to locational activities. We should expect, for example, that the community-centered occupation of the male as contrasted with the female's home-centered occupation has important implications in terms of attitudes and various other behavior patterns. Because of the different roles, statuses, and levels of living associated with occupations, moreover, different occupations for males are differentially associated with residence-location activities.[8]

Table XVII shows the usually held occupations reported for the heads of houses of the 832 families in our sample.[9] It will be noticed that farmers, farm managers, and farm workers make up 6 per cent of the total number of occupations. In contrast craftsmen, foremen, and skilled workers account for roughly 30 per cent of the total.

In Table XVIII RURP scores for males and for females have been related separately to the occupation of the head of house. The score of a

[7] Hiller, *ibid.*, especially Chap. XXX; Paul K. Hatt, "Occupation and Social Stratification," *American Journal of Sociology,* LV (May 1950), 533-543.

[8] For example, see Calvin F. Schmid, *Social Trends in Seattle,* Chap. VII.

[9] Except for a negligible number, heads of houses are male.

male is usually paired with his occupation while the score of a female is usually paired with her husband's occupation.

TABLE XVII. OCCUPATIONS OF HEADS OF HOUSES

Occupations	Number	Per Cent
Professional or semiprofessional	47	5.6
Farmers and farm managers	44	5.3
Proprietors, managers, and officials (except farm)	76	9.1
Clerical and sales workers	79	9.5
Craftsmen, foreman, and skilled	249	29.9
Operatives	91	10.9
Service, including domestic service	30	3.6
Students	17	2.0
Farm laborers	6	0.7
Laborers, unskilled, common (except farm laborers)	121	14.5
Retired or financially independent	72	8.7
Total	832	99.8

TABLE XVIII. OCCUPATION OF HEADS OF HOUSES RELATED TO RURP SCORES OF OCCUPANTS BY SEX*

Occupation of Head of House	RURP Scores 0-12	14-16	18-20	Total
MALES				
Retired or financially independent, professional, semiprofessional, proprietors, and managers	23 (+)	23 (−)	21 (−)	67
Farmers and farm managers	3 (−)	7 (+)	6 (+)	16
Clerical and sales workers	11 (+)	13 (−)	12 (−)	36
Craftsmen, foremen, operatives, and skilled workers	21 (−)	47 (+)	46 (+)	114
Service, farm, and unskilled workers	23 (+)	13 (−)	13 (−)	49
Total	81	103	98	282
FEMALES				
Retired or financially independent, professional, semiprofessional, proprietors, and managers	34 (−)	33 (−)	23 (+)	90
Farmers and farmer managers	5 (−)	10 (+)	6 (+)	21
Clerical and sales workers	8 (−)	10 (−)	10 (+)	28
Craftsmen, foremen, operatives, and skilled workers	61 (−)	64 (+)	35 (−)	160
Service, farm, and unskilled workers	43 (+)	24 (−)	17 (−)	84
Total	151	141	91	383

Males: $\chi^2 = 16.01$ $P < .05$
Females: $\chi^2 = 11.17$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

* Ordinary, but not always, the male whose RURP score is given would also be the head of the house, and the female, the wife of the head.

For the two categories, "farmers and farm managers" and "service, farm, and unskilled workers," males and females deviated similarly from the theoretical frequencies. In the first case, as might be expected, both males and females have a deficiency in the low-score column; in the second, this low-score column is the only one with a surplus. In contrast to this agreement, the patterns are reversed in the heterogeneous first category, "retired, financially independent, professional, etc." Males tend to have a surplus in the low-score column, while for females the surplus of scores is in the high-score column. This identical situation exists in the third category, "clerical and sales workers."

In other words, more males than would be expected by chance get low RURP scores where the head of the house falls in one of three rather dissimilar occupational categories: (1) upper white-collar class, including professional, semiprofessional, proprietors, and managers, (2) clerical and sales workers, and (3) unskilled and semiskilled workers, including service workers and a few farm workers. In contrast, for females there is a surplus of low scores only where the head of the house is classified in the last of these three categories.

Chi square for females is not significant and chance variation may play a large part in this picture. It seems likely, however, that the way of life, including ability to command goods and services, which accompanies an occupation is a significant factor in locational activities and in degree of adjustment to a given location. Considerable research is needed in this area.

Social Status. In view of recent contributions to the literature, it is probably true that the prevailing emphasis in community research concerns the origins and development of the social-class structure and the influence of this structure as it pervades all aspects of community life.[10] The social status of the individual or his position in the class structure has been shown to be related in a highly predictable fashion to a wide variety of behavior.[11] Because of this demonstrated relationship, it is extremely pertinent to our problem to examine the degree of associa-

[10] August B. Hollingshead, "Community Research: Development and Present Condition," *American Sociological Review,* XIII (Apr. 1948), especially pp. 141-144.

[11] See particularly August B. Hollingshead, *Elmtown's Youth* (New York, 1949). The author has used chi square tests to demonstrate the significant relationship between the social position of the family and specific patterns of behavior among adolescents. See W. Lloyd Warner et al., *Social Class in America* (Chicago, 1949); W. Lloyd Warner and Paul S. Lunt, *The Social Life of a Modern Community* (New Haven, 1941); W. Lloyd Warner and Leo Srole, *The Social Systems of American Ethnic Groups* (New Haven, 1945); W. Lloyd Warner and J. O. Low, *The Social System of the Modern Factory* (New Haven, 1947); Harold F. Kaufman, *Prestige Classes in a New York Rural Community,* Memoir 260, Cornell University Agricultural Experiment Station (Ithaca, 1944).

tion of social status with attitude toward residence in the rural-urban fringe. While we do not have data for an intensive social-class analysis, all but 5.2 per cent of the sampled dwelling units were scored on Chapin's Social Status Scale.[12] As would be expected, the heterogeneous population of the fringe area provides a wide range of social-status scores.

TABLE XIX. SCORES ON CHAPIN'S SOCIAL STATUS SCALE

Score	Number	Per Cent
250 or more	2	0.2
225-249	2	0.2
200-224	9	1.1
175-199	18	2.3
150-174	49	6.2
125-149	77	9.8
100-124	166	21.0
75-99	163	20.6
50-74	157	19.9
25-49	110	13.9
0-24	37	4.7
Total	790	99.9

TABLE XX. SCORES ON CHAPIN'S SOCIAL STATUS SCALE RELATED TO SCORES ON THE RURP SCALE

Status Scores	RURP Scores 0-12	14-16	18-20	Total
MALES				
150 or more	5 (−)	8 (−)	15 (+)	28
100-149	15 (−)	30 (+)	27 (+)	72
50- 99	31 (+)	45 (+)	27 (−)	103
0- 49	14 (+)	14 (−)	15 (+)	43
Total	65	97	84	246
FEMALES				
150 or more	6 (−)	23 (+)	11 (+)	40
100-149	31 (−)	45 (+)	23 (−)	99
50- 99	47 (+)	42 (−)	35 (+)	124
0- 49	29 (+)	19 (−)	6 (−)	54
Total	113	129	75	317

Males: $\chi^2 = 12.05$ $P < .05$
Females: $\chi^2 = 21.41$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

Since this scale was standardized a number of years ago in a different section of the country and in connection with an urban population, we consider it as an extremely crude measuring device for our fringe popu-

[12] See pp. 24-25.

lation. Even so, it is of interest to examine the degree of relationship between the two scores for the 645 individuals scored on the Chapin scale as well as the RURP scale. Our ninth null proposition holds that the two sets of scores are independent of each other.

The comparison is shown on Table XX. With six degrees of freedom a chi square of 12.59 is required at the 5 per cent level; the null hypothesis can be rejected for females but not for males. The shifting of the positive signs from the low RURP column for those with low status scores to the high RURP column for those with high status scores is consistent and suggestive.[13]

Income. Closely intercorrelated with occupation and social status is the variable income. We might expect that the pattern of living associated with high income or low income is an important factor in adjustment to any given type of residence location. While over 11 per cent of the respondents refused to report income information or professed not to know the total family income for 1948, the range of incomes reported reflects the heterogeneity of the fringe population.

TABLE XXI. FAMILY INCOME FOR 1948

Income	Number	Per Cent
Less than $1000	44	5.3
$ 1,000-$ 1,999	75	9.0
2,000- 2,999	132	15.8
3,000- 3,999	204	24.5
4,000- 4,999	133	16.0
5,000- 7,499	99	11.9
7,500- 9,999	22	2.6
10,000- 14,999	18	2.2
15,000- 19,999	4	0.5
20,000 and over	9	1.1
Don't know	40	4.9
Refuse	52	6.2
Total	832	100.0

In Table XXII the total family income reported for 1948 is shown in relation to RURP scores, separately for male and for female respondents. In each case the pattern of algebraic signs indicates a consistent tendency toward a positive association. Chi square for females approaches the required 15.51, but neither for males nor for females is it possible to reject the hypothesis of independence.

Social Participation. A further insight into the social roles of rural-

[13] Where the original scores are treated as quantitative data, the value of the product-moment coefficient of correlation is $+.21 \pm .04$ and the correlation ratio is .24.

TABLE XXII. ANNUAL FAMILY INCOME FOR 1948 RELATED TO RURP SCORES BY SEX

Total Family Income	RURP Scores 0-12	14-16	18-20	Total
Males				
$7,500 or more	5 (−)	6 (−)	10 (+)	21
$4,000-$7,499	18 (−)	26 (−)	31 (+)	75
$2,000-$3,999	38 (+)	46 (+)	39 (−)	123
Less than $2,000	13 (+)	18 (+)	14 (−)	45
Refuse, don't know	7 (+)	7 (+)	4 (−)	18
Total	81	103	98	282
Females				
$7,500 or more	3 (−)	11 (+)	9 (+)	23
$4,000-$7,499	39 (−)	44 (+)	27 (+)	110
$2,000-$3,999	63 (+)	53 (−)	38 (+)	154
Less than $2,000	25 (+)	10 (+)	6 (−)	50
Refuse, don't know	21 (+)	15 (−)	11 (−)	47
Total	151	142	91	384

Males: $\chi^2 = 5.50$ $P > .05$
Females: $\chi^2 = 13.25$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

urban fringe residents may be gained by examining social-participation differentials.

The rural-urban fringe has been called an "institutional desert" cut off from the organized social activities of both the rural and the urban areas.[14] The present study has found little to refute such a generalization. As Firey points out in connection with activities for young people, "The city boy and girl have such organizations as the Boy Scouts, Girl Scouts, Y.M.C.A., Y.W.C.A., Camp Fire Girls, and many other more or less urban groups. The country boy or girl has the 4-H clubs and the Future Farmers of America. But the fringe boy or girl does not find either of these quite satisfactory or accessible."[15] This situation seems to extend throughout all age groups of the fringe population of Eugene and Springfield. Not only is there little participation in urban activities but, more important, there is even less participation in local fringe organizations. While the situation varies considerably from one fringe neighborhood to another, in general there is lacking any effective leadership for developing local neighborhood activities. As one middle-aged man told an interviewer, "Tell him [referring to the writer] we would like him to get a 4-H club started here for the young people and a Hobby Shop with a wood lathe and equipment for some of the rest of us."

[14] Walter Firey, *Social Aspects of Land Use Planning in the Country-City Fringe: The Case of Flint, Michigan*, p. 37.
[15] *Ibid.*

The general lack of particiaption is revealed in the distribution of scores on the Social Participation Scale as shown[16] in Table XXIII. Scores were obtained for 90.3 per cent of the 832 families. A considerable range of scores was obtained, with nearly 80 per cent of the families scoring less than ten and 34.9 per cent or one out of three reporting no formal memberships for either husband or wife.

TABLE XXIII. SCORES ON THE SOCIAL PARTICIPATION SCALE

Score	Number	Per Cent
70 or more	1	0.1
60-69	1	0.1
50-59	1	0.1
40-49	3	0.4
30-39	7	0.9
20-29	23	3.1
10-19	117	15.6
5- 9	151	20.1
1- 4	185	24.6
0	262	34.9
Total	751	99.9

One further null hypothesis holds that there is no significant relationship between social participation and RURP scores. This proposition will be examined first in terms of number of memberships and secondly

TABLE XXIV. NUMBER OF MEMBERSHIPS RELATED TO RURP SCORE BY SEX

Number of Memberships	RURP Scores 0-12	RURP Scores 14-16	RURP Scores 18-20	Total
MALES				
One or more	42 (−)	57 (−)	61 (+)	160
None	36 (+)	45 (+)	33 (−)	114
Total	78	102	94	274
FEMALES				
One or more	54 (−)	68 (+)	38 (+)	160
None	93 (+)	68 (−)	50 (−)	211
Total	147	136	88	371

Males: $\chi^2 = 2.56$ $P > .05$
Females: $\chi^2 = 5.07$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

in terms of city or fringe location of membership organizations. In Table XXIV the number of memberships for males and for females are dicotomized and related to RURP scores.

[16] See pp. 24-25.

Neither for males nor for females is the computed value of chi square as large as the 5.99 required with two degrees of freedom, although for females the required value is approached. Thus, although in each case the pattern of algebraic signs indicates a positive association of social participation with RURP scores, it is not possible to reject the null hypothesis which denies the presence of a significant relationship.[17]

It might be expected that *number* of memberships would be less important in adjustment to fringe residence than is the *location* of the associations to which the individual belongs. One hundred sixty or 58.4 per cent of the 274 males for whom reports were available reported belonging to at least one formal association. In contrast, of the 371 women reported, 160 or only 43.1 per cent had at least one membership. The 160 men reported 370 memberships with a mean of 2.3, the 160 women 283 memberships with a mean of 1.8. Two hundred ninety-five or 79.7 per cent of the memberships reported for men pertained to associations located in Eugene or Springfield, while 209 or 73.9 per cent of the memberships of women were so located.

In Table XXV we have taken those memberships reported by individuals for whom RURP scores are available, 293 memberships for men

TABLE XXV. LOCATION OF FORMAL MEMBERSHIPS RELATED TO RURP SCORES BY SEX

Location of Association	RURP Scores 0-12	14-16	18-20	Total
MALES				
In fringe area	6 (−)	29 (+)	28 (+)	63
In town	71 (+)	85 (−)	74 (−)	230
Total	77	114	102	293
FEMALES				
In fringe area	24 (+)	19 (−)	15 (+)	58
In town	65 (−)	70 (+)	45 (−)	180
Total	89	89	60	238

Males: $\chi^2 = 11.77$ $P < .05$
Females: $\chi^2 = .78$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

and 238 for women, and have related them to the RURP scores. This table indicates, then, the extent to which memberships in associations located in town or the fringe tend to gravitate to those individuals having high, medium, or low scores on the RURP scale.

[17] Where the family score on the Social Participation Scale is correlated with the RURP score of the respondent from that family, the product-moment coefficient of correlation is $+.10 \pm .04$ and the correlation ratio is .13.

The evidence regarding the null hypothesis is ambiguous. Contrary to expectations, for women there seems to be no clear-cut relationship between location of associations and satisfaction with fringe residence location. For men, however, the relationship is positive and consistent. The percentage of association memberships which are located in the fringe is 7.8 for low-scoring males and 27.4 for high-scoring males. The value of chi square is considerably larger than the 5.99 required with two degrees of freedom.

Summary. The foregoing discussion of roles requires cautious evaluation. In terms of our statistical criteria, only the factors of sex and social status, and for men the factors of occupation and participation in fringe associations, are significantly related to scores on the RURP scale. However, even where chi square is not significant, the consistency and similarity of relationship patterns found independently for males and females is very suggestive. To some extent at least, there is evidence that a way of life not involving occupations at the service, farm, or unskilled level, but including high income, high socioeconomic status, and high extent of social participation, is associated with satisfaction with residence in the fringe area. The roles and general activities of women, young adults, and the aged serve to sensitize individuals in these categories to certain inconveniences and unfavorable aspects of fringe residence.

We do not mean that our data demonstrate in any conclusive sense, even for the specific fringe area studied, the statements just made. The indications are there, however. It might be said that these are our predictions of future findings if, for some similar fringe populations, these hypotheses are tested with instruments more accurate and reliable than those at our disposal.

Common Antecedents and Adjustment to Residence Location

In developing the hypothesis of sociocultural influences, we stated that the premises upon which the hypothesis rests led us to believe that individuals satisfied with or attracted by a particular type of residence location would be individuals having among other characteristic attributes a common set of antecedents.[18] This aspect of the general hypothesis was set up for testing as the null hypothesis: satisfaction with residence location in the rural-urban fringe is not significantly related to the type of residential environment to which earlier conditioning took place. Data are available for only a limited number of background factors but even these few items may prove suggestive.

[18] See pp. 19-20.

Three series of data on previous residential location were collected: (1) the last previous location, (2) the location on Pearl Harbor Day, and (3) an evaluation of childhood residence as urban or rural.

TABLE XXVI. LAST PREVIOUS RESIDENTIAL LOCATION

Residence Location	Dec. 7, 1951 Number	Dec. 7, 1951 Per Cent	Last Previous Address Number	Last Previous Address Per Cent
City (100,000 or more)	98	11.8	81	9.7
City (50,000-99,999)	52	6.2	44	5.3
City (10,000-49,999)	201	24.1	265	31.9
Town (under 10,000)	130	15.6	123	14.8
Rural nonfarm	236	28.4	222	26.7
Rural farm	106	12.7	95	11.4
Not given	10	1.2	2	0.2
Total	832	100.0	832	100.0

In setting up the matrix for an analysis of the relationship between previous residence location and RURP scores, we have combined certain of the rows into dichotomous categories.

TABLE XXVII. LAST PREVIOUS RESIDENCE LOCATION RELATED TO RURP SCORE OF RESPONDENT BY SEX

Residence Location	RURP Scores 0-12	RURP Scores 14-16	RURP Scores 18-20	Total
MALE				
Rural: farm or nonfarm	25 (−)	43 (+)	48 (+)	116
Inside city or town	56 (+)	60 (−)	50 (−)	166
Total	81	103	98	282
FEMALE				
Rural: farm or nonfarm	52 (−)	53 (+)	36 (+)	141
Inside city or town	100 (+)	87 (−)	55 (−)	242
Total	152	140	91	383

Males: $\chi^2 = 6.04$ $P < .05$
Females: $\chi^2 = 0.79$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

For males and for females the algebraic signs indicate a positive relationship between nonurban last previous residence and high RURP scores. Chi square is significant, however, only in the case of males.

When residence location on Pearl Harbor Day is related to RURP scores, the scores are found to be associated positively with nonurban residence. Chi square is significant for males and for females, although the extent of association is not great in either case.

Since these findings may be interpreted to show merely that individ-

TABLE XXVIII. RESIDENCE LOCATION ON DEC. 7, 1951 RELATED TO RURP SCORES OF RESPONDENTS, BY SEX

Residence Location	RURP Scores 0-12	14-16	18-20	Total
MALES				
Rural: farm or nonfarm	26 (−)	42 (+)	58 (+)	126
Inside city or town	55 (+)	60 (−)	39 (−)	154
Total	81	102	97	280
FEMALES				
Rural: farm or nonfarm	45 (−)	58 (+)	44 (+)	147
Inside city or town	106 (+)	81 (−)	47 (−)	234
Total	151	139	91	381

Males: $\chi^2 = 6.83$ $P < .05$
Females: $\chi^2 = 9.22$ $P < .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

uals who like to live in an area continue to live there while those that do not, move away, a further test of the effect of early conditioning was arranged. For each family the respondent, usually the housewife, was asked to evaluate the extent to which the childhood of the husband and the wife was spent in rural or urban areas. The responses are shown in Table XXIX, with the dominant residence environment of the individual related to his RURP score.

For neither males nor females is the value of chi square large enough to permit us to reject the hypothesis that there is no relationship be-

TABLE XXIX. EXTENT CHILDHOOD RESIDENCE WAS URBAN OR RURAL RELATED TO RURP SCORES BY SEX

Residence Location	RURP Scores 0-12	14-16	18-20	Total
MALES				
Mainly or entirely rural	42 (−)	52 (−)	55 (+)	149
Equally rural and urban	8 (−)	19 (+)	12 (−)	39
Mainly or entirely urban	31 (+)	31 (−)	31 (−)	93
Total	81	102	98	281
FEMALES				
Mainly or entirely rural	73 (−)	71 (+)	47 (+)	191
Equally rural and urban	10 (−)	16 (+)	11 (+)	37
Mainly or entirely urban	65 (+)	53 (−)	33 (−)	151
Total	148	140	91	379

Males: $\chi^2 = 3.98$ $P > .05$
Females: $\chi^2 = 4.18$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

tween the type of residential location during childhood and the RURP score of an adult. However, the categories used are necessarily crude, based as they are upon the respondent's familiarity with the childhood residences of the spouse and general ability to recall childhood experiences accurately. It seems not unimportant that for males and for females independently these crude categories tend to be associated consistently with the RURP scores. That is, in each case those individuals reported to come from dominantly urban environments are found in a disproportionate number in the low-scoring column, while a deficiency of persons with largely rural background is apparent in this column. The deviations from theoretical frequencies are not large, however, and the null hypothesis remains tenable.

Summary. Only three sets of data are available to give us a basis for testing the hypothesis that individuals having a common evaluation of a given type of residence location will be characterized by common antecedents which distinguish them from individuals having another evaluation. Of the three factors, two were significantly related to RURP scores of men and one to scores of women. In every case, however, examination of the algebraic signs reveals that a disproportionate number of individuals with urban background are found in the column with low RURP scores and a dispropriationate number of individuals with nonurban background are found in the column with high RURP scores. In spite of the small values for chi square, which do not permit us to make a clear-cut rejection of the null hypothesis, we feel that these patterns are extremely suggestive and point up the need for further research.

Chapter VI

SITUATIONAL FACTORS

IN THE design of this study of adjustment to a particular area of residence, the seemingly relevant variables were classified rather arbitrarily under the categories of roles, common antecedents, and situational factors. The first two categories were examined in the preceding chapter. We shall now analyze the relationship of each of a rather wide variety of selected situational factors to scores made on the Rural-Urban Residential Preference Scale. In many cases we should expect the variables included in this section to be highly intercorrelated with variables such as income and social status, which were classified as roles. This does not mean that we cannot gain new insights through our separate analysis in this section. The findings here should enable us to accept or reject the null hypothesis which holds that RURP scores are independent of situational factors.

TABLE XXX. AMOUNT OF LAND

Amount in Acres	Number	Per Cent
Less than 0.50	276	33.1
0.50-0.99	217	26.1
1.00-5.90	240	28.8
6.00-9.99	17	2.0
10.00 or more	69	8.3
Not given	13	1.7
Total	832	100.0

TABLE XXXI. AMOUNT OF LAND LIVED ON BY THE RESPONDENT RELATED TO RURP SCORE BY SEX

Amount of Land	RURP Scores 0-12	14-16	18-20	Total
Males				
One-half acre or more	41 (−)	68 (+)	65 (+)	174
Less than one-half acre	38 (+)	34 (−)	29 (−)	101
Total	79	102	94	275
Females				
One-half acre or more	87 (−)	102 (+)	71 (+)	260
Less than one-half acre	60 (+)	38 (−)	20 (−)	118
Total	147	140	91	378

Males: $\chi^2 = 6.29$ $P < .05$
Females: $\chi^2 = 11.01$ $P < .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

Amount of Land. Examination of the unverified responses to a question regarding the amount of land possessed reveals a wide range of sizes. One-third of the families resided on less than one-half acre; more than one-half of the families in the sample reported tracts of land over one-half acre but less than six acres in size.

TABLE XXXII. HOME TENURE

Type of Tenure	Number	Per Cent
Rent or lease	90	10.8
Mortgaged	247	29.6
Own free and clear	458	55.0
Other arrangement	37	4.6
Total	832	100.0

TABLE XXXIII. HOME TENURE RELATED TO RURP SCORES BY SEX

Type of Home Tenure	RURP Scores 0-12	14-16	18-20	Total
MALES				
Own and free and clear	41 (−)	59 (+)	59 (+)	159
Mortgaged	23 (−)	35 (+)	25 (−)	83
Rent or lease	13 (+)	8 (−)	7 (−)	28
Other arrangement	4 (+)	0 (−)	5 (+)	9
Total	81	102	96	279
FEMALES				
Own and free and clear	74 (−)	80 (+)	50 (+)	204
Mortgaged	48 (+)	42 (−)	28 (+)	118
Rent or lease	21 (+)	11 (−)	8 (−)	40
Other arrangement	9 (+)	7 (−)	4 (−)	20
Total	152	140	90	382

Males: $\chi^2 = 11.72$ $P > .05$
Females: $\chi^2 = 4.14$ $P > .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

When size of tract is related to RURP scores, a consistent positive relationship is found both for males and for females. Since the larger pieces of land would be those of the part-time farmer[1] or open-spaces enthusiast, the finding of significant values for chi square is not particularly startling. Nevertheless these findings have their significance and work to refute the null hypothesis.

Home Tenure. It might be anticipated that those families owning

[1] Only 10.4 per cent of the 832 families reported selling some product of their land during the previous year.

homes in the fringe area would be more satisfied with fringe residence than would renters. This situation was undoubtedly influenced in the study area by the small number of homes available for renting. To some extent the fringe area served as a place when home seekers could buy or build more or less temporary housing pending the easing of the acute shortage within the corporate limits of the two cities.

The relationship between RURP scores and type of home tenure as revealed in Table XXXIII is somewhat ambiguous. For males and for females the greatest addition to the size of chi square comes from the disproportionate number of low RURP scores among renters. In contrast, there is a deficiency of low scores among those reporting their home owned and free of mortgages.

Although chi square for males approaches the 12.59 required with six degrees of freedom, neither for males nor for females can the relationship be called statistically significant. While the pattern of algebraic signs is suggestive, any generalization based on our data must be used with considerable caution.

Value of Home or Amount of Monthly Rental. It had been anticipated that the value of the home would be a rough index to the general living situation which might be highly correlated with attitudes toward fringe location. Unfortunately, a later check revealed a confusion on the part of a number of interviewers, resulting in the value of the dwelling

TABLE XXXIV. MONTHLY RENTAL RELATED TO RURP SCORES BY SEX

Monthly Rental	RURP Scores 0-12	14-16	18-20	Total
MALES				
$40 or more	11 (+)	4 (−)	6 (+)	21
Less than $40	9 (−)	6 (+)	4 (−)	19
Total	20	10	10	40
FEMALES				
$40 or more	12 (−)	8 (+)	7 (+)	27
Less than $40	17 (+)	3 (−)	1 (−)	21
Total	29	11	8	48

Males: $\chi^2 = .91$ $P > .05$
Females: $\chi^2 = 6.85$ $P < .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

unit alone being elicited in some cases and that of the total property in others. For this reason we shall deal only with amount of rent paid, thus limiting our analysis to the relatively small number of families renting homes.

The pattern for males differs considerably from that for females. While there appears to be no consistent relationship between rent paid and RURP score in the case of males, for females a positive, consistent relationship significant at the 5 per cent level is to be observed. This differential relationship based on sex also appears in the case of other factors and will be commented on later.

Land Use and the Garden. Possibly no other phase of suburban living has been so romanticized as the family garden. Having "room enough for a little garden" is the frequently spoken dream of young married couples living in city apartments and middle-aged clerks looking forward to retirement, while the tenderness of the lettuce and the size of the carrots is the subject of a considerable portion of the suburbanite's

TABLE XXXV. EXTENT OF GARDENING OR FARMING DURING PAST YEAR

Extent of Garden	Number	Per Cent
None	288	34.6
Vegetables, fruit, berries, (either one or any combination)	382	45.9
Vegetables, fruit, berries, plus some combination of rabbits, chickens, or other livestock	152	18.2
Not given	10	1.3
Total	832	100.0

conversation. What is the relationship between RURP scores and possession or lack of a garden among residents of the Eugene-Springfield area? The extent to which this population gardens is shown in Table XXXV.

TABLE XXXVI. PRESENCE OR ABSENCE OF FAMILY GARDEN DURING PAST YEAR RELATED TO RURP SCORES BY SEX

Extent of Garden	RURP Scores 0-12	14-16	18-20	Total
MALES				
Some	52 (−)	69 (−)	73 (+)	194
None	29 (+)	34 (+)	25 (−)	88
Total	81	103	98	282
FEMALES				
Some	73 (−)	105 (+)	58 (+)	236
None	77 (+)	34 (−)	30 (−)	141
Total	150	139	88	377

Males: $\chi^2 = 22.13$ $P < .05$
Females: $\chi^2 = 22.79$ $P < .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

More than one-third of the sample reported no garden, with the possible exception of flowers, during the past year. What is the significance of this in relation to adjustment to fringe living? For those individuals for whom RURP scores are available the data are shown in Table XXXVI.

Inspection of the contingency table shows the presence for both males and females of a positive relationship between high scores and having a garden.[2] Chi square is several times larger than the required value of 5.99.

The important role of the garden is further established when reported plans for future gardens are related to RURP scores. Since the reported plans are most frequently stated by the housewife, it is of interest to note that the size of chi square suggests these roles are more closely associated with the RURP score of the husband than that of the wife.

TABLE XXXVII. STATED EXTENT OF GARDEN PLANNED FOR COMING SEASON AS RELATED TO RURP SCORES BY SEX

Amount of Garden	RURP Scores 0-12	14-16	18-20	Total
MALES				
Undecided, same or more than last year.	49 (−)	88 (+)	85 (+)	222
None or less than last year	30 (+)	13 (−)	13 (−)	56
Total	79	101	98	278
FEMALES				
Undecided, same or more than last year.	111 (−)	120 (+)	77 (+)	308
None or less than last year	39 (+)	21 (−)	11 (−)	71
Total	150	141	88	379

Males: $\chi^2 = 21.84$ $P < .05$
Females: $\chi^2 = 8.82$ $P < .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

Conveniences in the Home. We have repeatedly found indications that the home situation is a more important factor in the adjustment of the female to the fringe area than it is in the case of the male. Examples would be the association for females but not for males of high RURP scores with the availability of transportation and communication facilities and with high rather than low rentals. To test this further, we shall

[2] In case this finding is interpreted as being a result of the presence in the sample of a large proportion of full- or part-time farmers, it should be pointed out that 89.6 per cent of the 832 respondents reported that they had not sold any products (vegetables, fruit, nuts, eggs, etc.) from their land during the last year. When those responses are dichotomized as "did sell" and "did not sell" and related to RURP scores, chi square for males is 1.66 and for females 5.07. Neither of these values is significant at the 5 per cent level.

examine data relating to two important conveniences within the home—cooking facilities and bathroom facilities.

TABLE XXXVIII. EXTENT OF BATHROOM FACILITIES

Facilities	Number	Per Cent
Neither bathtub, shower, nor inside toilet	146	17.5
Bathtub or shower, no inside toilet	42	5.0
Inside toilet, no bathtub or shower	14	1.7
Bathtub or shower and inside toilet	628	75.4
Not given	2	0.4
Total	832	100.0

TABLE XXXIX. EXTENT OF BATHROOM FACILITIES IN THE HOME RELATED TO RURP SCORES BY SEX

Bathroom Facilities	RURP Scores 0-12	14-16	18-20	Total
MALES				
All or some combination	65 (−)	86 (+)	81 (+)	232
No bathtub, shower, or inside toilet	16 (+)	17 (−)	17 (−)	50
Total	81	103	98	282
FEMALES				
All or some combination	116 (−)	121 (+)	80 (+)	217
No bathtub, shower, or inside toilet	36 (+)	20 (−)	11 (−)	67
Total	152	141	91	384

Males: $\chi^2 = .35$ $P > .05$
Females: $\chi^2 = 6.83$ $P < .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

Three-fourths of all families in the sample reported the presence in the home of a bathtub or shower and flush toilet. One hundred and forty-six families had none of these facilities. As a rough test the families are dichotomized in Table XXXIX into those with none and those with some indoor bathroom facilities and these categories are then related to RURP scores. For males and for females the algebraic signs indicate a

TABLE XL. COOKING FACILITIES

Type	Number	Per Cent
Electricity	477	57.3
Gas	64	7.7
Oil	25	3.0
Kerosene	19	2.3
Wood or coal	225	27.0
Combination	22	2.8
Total	832	100.1

tendency for absence of all indoor facilities to be linked with low scores. Chi square for males, however, is close to zero, while for females it is sufficiently large to be significant.

TABLE XLI. TYPE OF COOKING FACILITY AVAILABLE IN HOME RELATED TO RURP SCORES BY SEX

Type of Cooking Facility	RURP Scores 0-12	14-16	18-20	Total
MALES				
Not wood or coal	59 (−)	77 (+)	72 (−)	208
Wood or coal	22 (+)	26 (−)	26 (+)	74
Total	81	103	98	282
FEMALES				
Not wood or coal	106 (−)	106 (+)	72 (+)	284
Wood or coal	45 (+)	35 (−)	19 (−)	99
Total	151	141	91	383

Males: $\chi^2 = .09$ $P > .05$
Females: $\chi^2 = 14.91$ $P < .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

In contrast to what would be expected in other regions of the country, 57.3 per cent of the sample families reported the presence of an electric cooking facility. The next largest category, wood or coal range, includes a little over one-fourth of the families. By dichotomizing all cases we are provided with a compact matrix for testing with chi square. Scores for males, as shown in Table XLI, appear to be independent of the type

TABLE XLII. MAIN INCONVENIENCE REPORTED*

Main Inconvenience	Number	Per Cent
None	357	42.9
Lack of transportation facilities	143	17.1
Too far to town	61	7.3
Too far to school	41	4.9
Too far to work	18	2.2
Too isolated	27	3.2
Mud	18	2.2
Lack of fire protection	14	1.7
Inadequate roads	35	4.2
Inadequate sewage disposal	33	4.0
Flood waters	19	2.3
Miscellaneous	66	8.0
Total	832	100.1

* These results reflect the season during which the interviewing took place. An unusually cold winter had been followed by one of the periodic floods of the Willamette River, which coincided with the beginning of the interviewing. In some areas interviewing had to be postponed until the withdrawal of flood waters.

of cooking arrangement in the home; but such is not the case for females. In contrast to the chi square of .09 for males, the value for women is 14.91 and significant considerably beyond the 5 per cent level. The null hypothesis remains tenable for males but can be rejected with some confidence for females.

General Reaction to Inconveniences. All respondents were asked to name "the one greatest discomfort or inconvenience that your family suffers as a result of living outside the city limits."

As shown in Table XLII over 40 per cent of the respondents failed to indicate any major inconvenience For both males and females (Table XLIII) there is a tendency for RURP scores to be negatively associated with the reporting of a major discomfort or inconvenience suffered as a result of living in the fringe. The value of chi square for females is considerably larger than the 5.99 required with two degrees of freedom and the hypothesis of no relationship can be rejected.

TABLE XLIII. PRESENCE OR ABSENCE OF MAJOR INCONVENIENCES RELATED TO RURP SCORES BY SEX*

Major Inconvenience	RURP Scores 0-12	14-16	18-20	Total
MALES				
Not reported	26 (−)	47 (+)	45 (+)	118
Reported	55 (+)	56 (−)	53 (−)	164
Total	81	103	98	282
FEMALES				
Not reported	43 (−)	61 (+)	41 (+)	145
Reported	108 (+)	81 (−)	50 (−)	239
Total	151	142	91	384

Males: $\chi^2 = 4.43$ $P > .05$
Females: $\chi^2 = 9.24$ $P < .05$

Algebraic signs (+, −) indicate the direction of deviation from the theoretical frequencies.

* Actually this is not a test of the relationship between the RURP score of an individual and whether or not that individual reported or failed to report a major inconvenience. It is instead a test of the relationship between the responses concerning inconveniences of the person interviewed for the main schedule and the RURP score of the male or female that filled out the RURP scale. Ordinarily for females these individuals are the same, whereas for males RURP scores are often compared to the responses of the wife on the main schedule.

Summary. As a basis for evaluating the tenability of the null hypothesis which holds that satisfaction with fringe residence is not related to situational factors, we have analyzed the relationship between RURP scores and a variety of specific factors. Our findings are not without

ambiguities, but certain relationships stand up under analysis. For both males and females high RURP scores tend to be associated with the buying of a home located on more than one-half acre of land, part of which is devoted to a garden. The probability of high RURP scores is particularly good for those families that maintain a garden and do not indicate that a decrease in the size of the garden is contemplated.

For females only, high RURP scores are significantly associated with higher rents where the home is rented, with the presence in the home of bathroom facilities and other than a wood or coal range for cooking purposes, and with a report that no major inconveniences are experienced by the family as a result of being located in the fringe area. In no case was a significant chi square found which held only for males.

On the basis of our analysis we may conclude that the home situation is particularly significant in the adjustment of the woman to life in the fringe. Further probing might reveal that this does not hold for women working outside the home or that the male not working away from home is also sensitive to inconveniences and inadequacies. But this is only conjecture. A summation of better-grounded evidence, however, seems to indicate the rejection of the twelfth null hypothesis. The real importance of this rejection is the implication that, particularly for women, factors specific to a given residence become generalized for the entire rural-urban fringe and incorporated in attitudes toward life in the fringe area.

Chapter VII

RURAL-URBAN FRINGE: THE ADJUSTMENT PATTERN

THREE important types of weakness or conflict in the literature of human ecology gave impetus to this study. First, those who have concerned themselves with the regularities in the territorial distribution of man, his social activities, and his cultural products have offered little beyond *a priori* speculations about man's residence-location activities. Second, even those who have commented upon this phenomenon have failed to agree on the weightings to be given to (a) the allegedly unrelenting struggle to secure those locations which minimize the cost-time-energy expenditures involved in overcoming the restrictions of space and (b) a variety of social and cultural factors said to influence location preference. Third, at a time when the populations inhabiting the peripheries of our cities are in a dynamic state of flux and rapid expansion, the mass of empirical data concerns only the traditional residential areas, the rural farm and the urban home, and next to nothing is available in the way of verified information about the patterns of life in the rural-urban fringe.

In relating these three points of interest in one study, two broad working hypotheses were set up to give direction and consistency to the inquiry, the hypothesis of accessibility and the hypothesis of sociocultural influence. A number of corollary empirical propositions were formulated in relation to these general hypotheses, those having to do with social and cultural factors being roughly grouped as statuses and roles, common antecedents, and situational factors. Relevant data were collected from 832 families chosen so as to be representative of the Eugene-Springfield rural-urban fringe population. These data revealed among the respondents wide variations in satisfaction with fringe residence location, in accessibility to the city center, in personal characteristics and experiences, and in the familial and home situations. Analysis was then made to ascertain the extent to which variation in satisfaction with residence in the fringe area was significantly associated with the various factors on which information had been gathered. This analysis involved testing and rejecting or accepting the several specific null hypotheses.

The Generalizations

The question now to be considered is what generalizations about adjustment to residence location in the rural-urban fringe can be made on the basis of this study. Several conclusions stated tentatively during the analysis will now be restated. Since our study area is a specific fringe

area not necessarily typical or representative of other fringe areas, none of our conclusions are meant as generalizations holding outside the Eugene-Springfield fringe. Because of our sampling procedure, however, we can generalize about this particular fringe population with some confidence. Moreover, we suspect that the influences which bring about the development of fringe areas are sufficiently consistent throughout our society so that relatively superficial deviations from "typicality" are unimportant. This being so, studies of rather similar types of communities should produce rather similar conclusions, in spite of the lack of any demonstrated representativeness on the part of our study area. While future research may substantiate this conjecture, there is, at the present time, no basis in the data for generalizing outside the universe studied.

(1) Although a wide variation of attitudes exist, in general the population of the rural-urban fringe is very well satisfied with residence location in the fringe. The evidence is quite conclusive on this point. Examples are the 94 per cent of the males and 88 per cent of the females who scored higher than six (the zero point in the intensity analysis) on the RURP scale, and the 90 per cent of the males and 84 per cent of the females who were rated as satisfied or enthusiastic about living outside the city. Of similar importance is the small proportion, 12 per cent of the males and 14 per cent of the females, who were reported to desire to move into town.

(2) While the extent of accessibility of the residence location to the city center may be important in individual cases, in general it is not a crucial factor in satisfaction with residence location in the fringe. In spite of hypotheses of median location, principles of least effort, and discussions of the unceasing struggle for locations that minimize the time-cost-energy expenditures involved in overcoming frictions of space, our fringe residents do not carry on their locational activities as economizing agents.[1]

We have shown that it is probable that fringe residences characteristically deviate considerably from the median location of the occupants' activities and that the occcupants are only too aware of the frictions of space.[2] They are also largely aware that fringe residence is not an econ-

[1] We doubt if any contemporary sociologist would expect them to, although from their writings it is easy to get the impression that they do. "Hence the time and cost of transportation, by which accessibility is measured, limit the scatter of familial units around the locus of specialized functions toward which they are oriented. For example, *where the time and cost of transportation to a possible residence location approximate or exceed the savings in rental payments that location would permit, the selection of a site tends to shift to a higher rent but less distant location.*" Hawley, *Human Ecology,* p. 281. Our italics.

[2] See Table XLII.

omizing location.[3] This awareness is *not* accompanied by a general shifting of residences in the most economizing direction, that is, cityward toward the median of all activities, although it undoubtedly is an important factor in individual cases. The rural-urban fringe is not an area of decreasing population but is instead the fastest growing of residential areas.

There are a number of possible explanations for families continuing to reside at other than economizing locations. One possibility is that families move into the fringe area only after they find it impossible to locate a city residence; there is, however, rather strong evidence against this suggestion.[4] Or it could be that fringe residents are operating under the belief that they are minimizing costs and inconveniences by residing in the fringe. While such an idea may frequently be influential in the original city-to-fringe shift, Dewey's data as well as our own reject this as a characteristic illusion of fringe dwellers. Our data even deny that there is more than a small proportion of fringe families that would move into the city if houses were equally available in all areas.

We can only conclude that, at least in the Eugene-Springfield rural-urban fringe, the frictions of space ordinarily are not a crucial factor in satisfaction with the fringe as an area of residence. This does not mean we can completely reject the hypothesis of accessibility. We cannot deny completely the role of accessibility in location activities or even deny that in certain instances the degree of accessibility may be a major or even a critical factor. We shall return to this point in our final summary.

(3) The roles and statuses of the individual in the community are important factors in adjustment to residence location in the fringe. The evidence for this generalization is not conclusive and rests more on consistency of relationships within the data rather than on the impressive magnitude of the relationships.[5] It will help in evaluating this generalization of it is broken down for the individual factors:

(a) Males are somewhat more likely than females to make a satisfactory adjustment to fringe location of residence. This statement is based not only on the significantly different RURP scores of males and fe-

[3] In naming the major reason for choosing fringe location, only 12.8 per cent or 107 out of 832 respondents named economy factors (cheaper land, lower taxes, lower rent, or freedom from building codes)—in contrast to the 178 or 21.4 per cent who specified the one factor of plentiful space and lack of congestion. As Dewey comments in reviewing his very similar findings, "these advantages [lower taxes and cheaper land] are at best illusory, as is admitted readily by most residents of the rural-urban fringe." *Op. cit.*, p. 121.

[4] Only 5 per cent of Dewey's sample and less than 12 per cent of ours gave lack of available dwelling units as a reason for locating in the fringe area.

[5] There is apparently a sizable overlapping of influences included here under statuses and roles and those considered later under situational factors.

males but on a variety of other evidence referred to during the analysis. This difference grows out of the home-centered role of the housewife, which with fringe residence tends to isolate her from the community. We would expect this difference to be minimized as modern conveniences and means of communication and transportation become readily available for the woman in the fringe area.

(b) Young adults and the elderly are less likely than those in the middle years to make a satisfactory adjustment to residence location in the fringe. While this is a somewhat tenuous generalization, there is reason to feel that whatever the frustrations of fringe residence the younger and the older adults tend to be more sensitive to them.

(c) The roles, statuses, and patterns of life accompanying different occupations are reflected in differential adjustments to fringe residence. While results for males and females do not always agree, satisfactory adjustment seems more likely where the head of the house is, for example, a farmer or farm manager rather than a service worker, farm laborer, or other unskilled laborer.

(d) Annual family income tends to be associated positively with satisfactoy adjustment to fringe residence. While not statistically significant, for males and for females the evidence suggests that high income tends to be associated with satisfactory adjustment to fringe residence.

(e) Successful adjustment to the rural-urban fringe is positively associated with social status. The evidence for this generalization is the relationship between RURP scores and Chapin's Social Status scores and, for women, the significant relationship between RURP scores and such prestige items as high rent, private bath and indoor flush toilet, cooking facilities other than wood and coal burning, and an automobile and telephone. Also to be considered is the suggested but not significant relationship of RURP scores to high income, and, in the case of women, to the head of the house being employed as a white-collar, sales, managerial, or professional worker.

(f) Favorable attitudes toward residence in the fringe area tend to be associated with formal membership in one or more organization. However, one out of three families reported no membership for either husband or wife.

(g) For males, but not for females, membership in fringe organizations tends to be associated with favorable attitudes toward the rural-urban fringe as a place of residence.

(4) Conditioning during earlier periods of life to nonurban residence is conducive to satisfactory adjustment to the rural-urban fringe, while

lack of such conditioning tends to be associated with unsatisfactory adjustment. Three null hypotheses were tested for males and for females separately; while statistically significant relationships were found in only three cases, the pattern was consistent in all six instances. That this relationship would not hold in a highly urbanized fringe situation seems quite likely.

(5) Adequate living facilities with modern conveniences tend to be associated with favorable attitudes toward the rural-urban fringe, while lack of such facilities tend to be associated with unfavorable attitudes.

(a) For men and for women a large plot of land is significantly related to satisfactory adjustment to fringe residence.

(b) For men and for women the presence of a family garden is significantly associated with favorable attitudes toward the fringe.

(c) For men and for women the stated intention to have as large or a larger garden next year is significantly associated with favorable attitudes toward the fringe.

In evaluating findings (a), (b), and (c), the fact that a very small proportion of our sample sold any products off their land must be kept in view. Successful adjustment to the fringe area does not involve farming but rather sufficient land for gardening and the use of the land for that purpose.

(d) For women, but not for men, paying rent higher than the approximate median is significantly associated with satisfactory adjustment to fringe residence.

(e) For women, but not for men, successful adjustment to residence in the fringe area is significantly associated with the presence in the home of modern household utilities. The data provide evidence for this generalization in the case of cooking facilities, bathroom facilities, and certain communication and transportation facilities.

(6) The reactions of the individual fringe resident to a specific residence situation tend to become generalized as his attitude toward the entire fringe area as a place of residence. The validity of this proposition is difficult to judge without specific research and is presented here very tentatively. Our analysis, in general, substantiates it, since we observed significant relationships between highly specific items and attitude toward the general fringe area. However, in no case was a high degree of relationship observed, and we interpret this as indicating rather definite limits on the extent to which this generalizing of attitude occurs. This being the case, we could expect to find higher degrees of association if we related the presence or absence of specific factors with attitude to-

ward the particular neighborhood in the fringe rather than the total fringe area.

These are the conclusions that can be drawn from the analysis presented in this report. Again attention is directed to their limitations. They are generalizations based upon a sample of residents of a specific fringe area and pertain specifically only to that population. While chi square tests in some instances permit us to reject a hypothesis of no relationship with some confidence, in no case is the degree of relationship very large. Some of the more tenuous generalizations are little more than hypotheses for further testing.

Our findings do provide, however, some insight concerning the "typical" well-adjusted fringe resident. If he is a male, and this is somewhat more likely than not, he is in his forties or not too far away, owns at least a half acre of land not located at the extremes of the fringe, and enjoys working in the garden he maintains. His childhood was spent mainly or entirely in rural areas and he has resided outside the city consistently during the past decade. He is employed as a craftsman, foreman, operative, or skilled worker, or perhaps as a farm manager, and he is in the upper one-third of the fringe income bracket. He has a comfortable home and belongs to one or more organizations, one of which is probably located in the fringe area.

If the well-adjusted fringe resident is a woman, she is in her thirties or forties and lives in a comfortable home located on at least a half acre of land neither directly adjacent to the city nor at an extreme distance from it. Her childhood was not spent mainly or entirely in urban areas and she has lived outside the city during recent years. Her husband is a professional person, a proprietor or manager, or other white-collar worker. He may be a farmer or farm manager but is not likely to be a craftsman, foreman, or skilled worker and definitely not an unskilled laborer or service worker. The family income is not in the lowest 15 per cent of fringe-family incomes and is probably considerably higher. The family is buying or owns its home or, if it is rented, pays at least $40 a month rental. The home is well-equipped with modern cooking facilities, complete bathroom facilities, and a telephone. A car is available for the woman to use during the day and a bus line is within easy walking distance. She belongs to at least one organization, although not necessarily one located in the fringe. She likes to garden and is looking forward to at least as large a garden next season.

Attempts to portray ideal types are always dangerous and, where no basis for comparison exists, also futile. Certainly in this case a fringe resident could deviate considerably from our portrait and still be enthusiastic about his chosen area of residence. And yet it seems almost certain that deviation beyond some unknown point gives us an indi-

vidual whose chances of successfully adjusting to rural-urban fringe residence are at the minimum. Presumably the prototype would be found in the world of furnished rooms, the jungles of the urban slums, or possibly in some luxurious suite in one of the exclusive apartment districts of our larger cities.

The layman recognizes that, in general, the characteristics of our well-adjusted fringe resident, particularly in the case of the female, are probably those of the person well-adjusted to various residence situations other than the rural-urban fringe. The pattern of life found in the modern fringe area differs so little from that of life in the average city neighborhood that many individuals can, and probably do, move from city to fringe to city repeatedly and without disruption. Until we study the patterns of adjustment to urban residence, we shall not be able to designate with confidence specifically those characteristics which differentiate the person making a good adjustment only in the highly urban situation from the person antagonistic to such a location. If we eliminate those factors which fail to discriminate one type from another, e.g., the desire for modern conveniences which presumably is a common value for city and fringe housewives, we should expect to find, in accordance with our hypothesis of sociocultural influences, a configuration of responses which differentiate the well-adjusted apartment occupant from the well-adjusted fringe dweller. But, until further research is carried out, we shall be mainly dependent upon the journalist, the novelist, and the poet for descriptions of the rural and urban social types. Unfortunately, such descriptions are frequently not adequate for our needs.

In final summary, we agree that "the familial unit must maintain a degree of accessibility to the principal centers of activity in the community. Its members must be able to participate freely in the division of labor of the community and the various services should be able to reach the residence location without excessive cost."[6] This is as true of fringe residents as it is of other community members; the continuing growth of population in the fringe area merely emphasizes that the "degree of accessibility" need not be high and that other factors can compensate for the irritations involved in inaccessible location. Distance is always relative, always experienced in terms of cultural patterns and previous conditioning. Early conditioning to the rural way of life, the development of a particular value orientation or of a given system of roles may mean that accessibility to community centers is regarded as only a minor convenience. On the other hand, where well-structured roles are being interfered with, as in the case of the ex-urbanite housewife relegated to the fringe and unable to participate in week-end sales, space can truly become isolation and the frictions of space the bars of a prison.

[6] Hawley, *Human Ecology*, p. 281.

Appendix A

THE SAMPLING PROCEDURE

BECAUSE of the numerous difficulties involved in sampling the population of a functional area such as the rural-urban fringe, which cuts across the arbitrary boundaries of political and administrative lines, and because of the general interest in the applicability of various sampling procedures in such an area, we present here as clearly and concisely as possible the steps followed in this study. It is not an ideal sampling design but one worked out to meet the exigencies of a particular set of circumstances.

It was accepted that the sample design must meet certain basic requirements. The design must be one which would provide practical certainty that an estimate made on the basis of the sample would not differ by more than a prescribed amount from the value to be estimated. That is, the sample design should not only provide a basis for estimating parameters but should also make it possible to state the precision of these estimations. This requirement could be met only if the sample was random, i.e., drawn in such a way that each unit in the population had a known, usually equal, probability of being included. A second requirement was simplicity. Simplicity of procedure was particularly necessary because of the relatively large number of inexperienced interviewers who were to be used.

These two requirements placed very definite restrictions on the sample design.[1] Further restrictions resulted from the lack of information concerning the population to be studied. There was, for example, no list of residents of the rural-urban fringe area which could be used for equal-interval sampling. Moreover, since the study area was a functional one not corresponding to the civil divisions used for census enumeration, census data were not available for use in stratifying the population.

The resources available for sampling the fringe population were meager, consisting of two maps: one showing the spatial distribution of single-family residences in the entire Eugene-Springfield area,[2] the other a large-scale detail map of the same area. Considering the resources available and the specifications to be met, area sampling was clearly indicated as the appropriate general procedure.

The theory and methodology of area sampling has been well describ-

[1] Compare the points stressed in this section with Morris H. Hansen, "Sampling of Human Populations," mimeographed, a paper read at the International Statistical Conference, Washington, D.C., Sept. 1947, especially pp. 2-5.

[2] Prepared by the Central Lane County Planning Commission in 1946 and revised in 1948.

ed elsewhere.[3] In general this sampling procedure is based on the following reasoning. Given a specific area of study divided into well-defined subareas and a complete census of the dwelling places included in a random sample of these subareas, it is possible to estimate characteristics of the population of the entire study area and to state the precision of these estimations. Furthermore, it is possible to increase the precision of the results in a number of ways.[4] (1) Geographic stratification of the population and random sampling at a proportionate or known rate from each of the geographic strata will result in sample results with a smaller margin of error than would be the case if the population had not been stratified. (2) If knowledge of the population size of the sampling units is available and they are stratified on the basis of size, an increase in the precision of sample results will be obtained; it is particularly important that large population aggregates be placed in a separate stratum for sampling purposes. (3) Special sampling procedure for trailer camps, institutions, hotels, and other "quasi-households" with considerable variation in size will further increase the precision.[5] (4) Increasing the number of sampling units, even though at the same time decreasing their size so as to obtain no larger a sample, will result in a smaller margin of error. The same effect can be obtained by introducing subsampling.[6] In the latter case a subsample of dwelling places or other sampling units is selected from each of the subareas in the primary sample. Such a subsample will yield more reliable results than a similar-sized sample obtained by taking a complete census of fewer subareas. For any of these sampling procedures, degrees of precision can be given for estimates of population characteristics.

The General Sample. In the selection of a sample of the Eugene-Springfield fringe population it was decided to adopt fractions of the one-mile-square survey sections as primary sampling units. The difficulty of dealing with projected lines was realized,[7] but certain advantages appeared to accrue through the use of quarter sections. The map of single-family residences, while easily marked off in quarter-sections, showed no roads or highways, so that less systematic area divisions would have been difficult to match with corresponding subareas on the large-scale road map. The use of quarter-section areas on both maps made it possible to relate quickly and precisely the information on one to the information on the other. Also, the use of quarter sections would, for the same size sample, give greater precision of results than sections.

[3] See p. 8, note 30.

[4] Yates, *Sampling Methods for Censuses and Surveys,* pp. 17-19 *et passim.*

[5] Bureau of the Census, *A Chapter in Population Sampling,* pp. 10-11.

[6] Morris H. Hansen, "Sampling of Human Populations," pp. 13-14; Bureau of the Census, *op. cit., passim.*

[7] Bureau of the Census, *Census Tract Manual,* 3rd ed. (Washington, D.C., Jan. 1947), p. 10.

As a simple means of increasing reliability of results, geographic stratification was introduced by dividing the general area into six districts.[8] These districts were large but relatively homogeneous and bounded by such easily observed landmarks as railroad lines, rivers, and highways. Within each of these areas the quarter sections were numbered, the entire study area comprising 291 of these primary sampling units. By means of a table of random numbers, a sample of quarter sections was drawn from each of the six districts proportionate to the number in the district and so as to give a total sample of 100 primary sampling units for the entire study area. A map of each selected quarter section was then prepared, showing all roads, streams, and other landmarks which would help to identify the area in the field.[9] The pattern of known residences was then indicated on the quarter-section map after reference to the map of single-family residences. In this fashion each interviewer was provided with a detailed map of the area in which he was to work, including not only the streets and landmarks but also the locations of all single-family residences as recorded less than a year before. These maps proved to be invaluable. On the map each house visited was circled and marked "refused," or "not at home," or, if interviewing was completed, designated by the number of the interview schedule. Thus, any completed schedule could be quickly related to the interviewer's map through the identifying area number and then to the particular residence marked with the schedule number. Since the name and address of the interviewee were noted on the schedule along with the identifying number of the area, considerable supervision could be exercised over the extent to which interviewers were following the prescribed sampling procedure.

The first step of the interviewer was to list the dwelling units in the designated interview area.[10] This involved checking the single-family residences shown on the map with the pattern of dwelling units to be observed in the area. All newly constructed or omitted dwelling places were added to the map, while incomplete, vacant, or destroyed homes were indicated as such. This prelisting insured representation of all new homes, a necessary and important precaution in a rapidly developing residential district.[11]

Subsampling of dwelling units involved beginning at a predetermined

[8] See Map II.

[9] In practically all cases one or more sides of the square were clearly and unmistakably defined by roads and intersections.

[10] In heavily populated or poorly defined areas, advance workers did all the prelisting prior to the time the actual interviewers entered the area.

[11] In a number of areas no change in the pattern of residences had occurred. On the other hand, in one interview area where four residences were indicated as of 1948, a total of 46 dwelling places were found, including two tents, three trailers, and four vacant or incomplete houses. Such very recent mushrooming of residential districts made prelisting essential.

spot and following a designated route so as to interview at every third dwelling unit in the area. These precautions and quite close supervision insured that the influence or judgment of the interviewer in deciding which residence to contact was kept at a minimum.

Subsamples for the RURP Schedules. In the general sample of dwelling units the interviewer was instructed to obtain the specified information by interviewing any resident adult available at the predesignated dwelling unit. This procedure assumes that the census-type data required for the schedule would not be seriously biased by the fact that an undue proportion of the respondents would be housewives. In the case of the Rural-Urban Residential Preference Scale, however, it was desired to obtain a random sample of males and of females.[12] It was obvious that, unless precautions were taken, the great majority of RURP schedules would be filled out by females and that the male respondents would be a highly select group—those men who are home during the daylight hours of week days. To overcome these biasing factors the RURP schedules, which were not attached to the schedules proper but were numbered serially to correspond to them, were identified "male" if they bore an odd number and "female" if the identifying number was even. Odd- and even-numbered schedules were used alternately and the husband or the wife was requested to fill out the RURP schedule, depending upon the number.[13] In the case of an odd-numbered schedule where the husband was not home, the RURP schedule and a stamped self-addressed envelope were left with the wife, with the request that the husband fill out and mail the attitude form.[14] Since the sample rate for dwelling units was one out of three, this resulted, in the case of the RURP scale, in a sampling rate of one out of six for each sex, e.g., if dwelling units one and seven have male respondents, four and ten will have female respondents. There being no selection by interviewers, this procedure should result in approximately equal sized random samples of males and females.[15]

Summary. Our sampling procedure can be summarized in reference

[12] This was necessary in order to test the hypothesis that the attitude of women differs significantly from the attitude of men.

[13] In cases such as unmarried, widowed, or divorced persons, where the individual or the designated sex was not resident in the home, the respondent filled out the RURP scale, which was then identified by the respondent's sex.

[14] It is unfortunate that this procedure provides no check on the sex of the person filling out the scale. That is, it is possible in some cases that the wife filled out and mailed the form without consulting her husband. But certainly such cases would be a small proportion of the total.

[15] Actually the resulting samples were not equal size (see p. 40). Since a certain proportion did not return the scales as requested and since schedules were more frequently left for males to return, N of the female sample exceeds that of the male sample.

to the various levels of sampling which we discussed on pp. 8-12.

(1) The study area was not chosen at random from the universe of all rural-fringes but was purposely selected. A random selection of fringe areas only became practical with the release of the 1950 census data for urban fringes.

(2) The subareas studied were selected from the total of subareas on the basis of a table of random numbers.

(3) Dwelling units at which interviewing took place were selected on the basis of equal-interval sampling—every third dwelling unit was designated for contact without interviewer choice.

(4) The respondents within the selected dwelling units were not selected at random because of the nature of the general census data. The exception was the effort made to obtain a representative sample of males and of females on the RURP schedules.

The extent to which completed schedules, "refusals," or "no contacts" resulted from the interviewers' efforts is shown broken down by the six geographic strata in Table I (page 33).

Appendix B

ESTIMATING THE TOTAL POPULATION

A PROCEDURE for obtaining an unbiased estimate of the total population contained within the area covered by block sampling has been developed by the sampling staff of the Bureau of Census.[1] The formula for making such an estimate reads as follows:

$$x' = \sum_{i=1}^{R} \frac{M_i}{m_i} \sum_{j=1}^{m_i} \frac{N_{ij}}{n_{ij}} \sum_{k=1}^{n_{ij}} x_{ijk}$$

where:[2]

x' = the estimated total number of people in the area.
M_i = the total number of blocks[3] in stratum i.[4]
m_i = the number of blocks sampled in statum i.
N_{ij} = the total number of dwelling places in block ij.
n_{ij} = the number of dwelling places sampled in block ij.
x_{ijk} = the number of people in dwelling unit ijk.
R = the number of strata in the area.

Recently certain modifications in this equation have been made so as to take into consideration the incomplete enumeration of sample dwelling units.[5] For each stratum this adjustment involved multiplying the predetermined sampling rate for dwelling units by the ratio of the number of occupied dwelling units in the sample to the number that were actually interviewed. The result may be used as an "adjusted" sampling interval for dwelling units. Using this "adjusted" sampling interval to "inflate" the population estimation involves the assumption that the mean number of occupants in dwelling units not contacted is the same as for houses where enumeration took place. The detailed procedures of making the estimates are as follows:[6]

(1) The total number of occupants of all dwelling units contacted is computed for each geographic stratum.

(2) The total number of persons enumerated for each stratum is multiplied by an "inflating weight." This weight is the product of the

[1] Bureau of the Census, *A Chapter in Population Sampling,* formula (1), p. 20.
[2] *Ibid.,* pp. 16-18.
[3] In the present study "block" refers to the area sampling unit, a quarter-section.
[4] In the present case geographic "stratum" refers to one of the six major area divisions.
[5] Julius A. Jahn, *op. cit.,* pp. 37-39, 186-188.
[6] *Ibid.,* pp. 186-188.

reciprocals of the sampling rates for quarter sections and dwelling units within quarter sections multiplied by the ratio of the total number of dwelling units listed in the sample for interviewing to the number of dwelling units actually interviewed.

(3) The weighted totals for each of the strata are added to arrive at an estimation of the total number of persons living in the defined area at the time of the survey.

The details of the application of this procedure to the data of the present study are shown in the accompanying table.

TABLE XLIV. OPERATIONS INVOLVED IN ESTIMATING THE POPULATION OF THE EUGENE-SPRINGFIELD FRINGE AREA

1	2	3	4	5	6
I	36/12	437/145	145/125	427	4,457.88
II	61/21	487/166	166/148	519	4,888.98
III	53/18	241/92	92/81	290	2,491.10
IV	61/21	486/166	166/145	569	5,456.71
V	51/18	483/163	163/130	506	5,313.00
VI	29/10	688/230	230/203	689	6,752.20
Total estimated population					29,359.87

Column 1: Enumeration district.

Column 2: $\frac{M_i}{m_i}$ = the reciprocal of the sampling rate of dwelling units within census district *i*.

Column 3: $\frac{N_{ij}}{n_{ij}}$ = the reciprocal of the sampling rate of quarter sections within quarter section *ij*.

Column 4: The ratio of dwelling units sampled in quarter section *ij* to the number of dwelling units actually enumerated.

Column 5: The total number of people enumerated in the sampled houses in district *i*.

Column 6: (2) (3) (4) (5) = the estimated population of census district *i*.

Appendix C

CONSTRUCTION OF THE RURAL-URBAN RESIDENTIAL PREFERENCE SCALE

THE Cornell technique[1] of scale analysis was adopted as the simplest means of developing a scale which would arrange fringe residents in a meaningful rank order in terms of their reaction to fringe residence. This rank order would be meaningful in that a person with a given rank-order score could always be said to be more favorable to fringe residence than anyone with a smaller score, i.e., no person with a lower rank-order score would rank higher on any individual item than he did.[2]

Operations in Constructing the RURP Scale. The following steps were involved in constructing the scale:[3]

(1) The universe of attributes was defined as all possible statements concerning the desirability or undesirability of residence in the fringe area as compared with the urban area. Ten statements were drawn up as a sample of items from this universe.

(2) The population was defined as all nontransient adult inhabitants of the Eugene-Springfield rural-urban fringe. A sample of 100 individuals was drawn from this universe in order to test the hypothesis that the universe of attributes was scalable.

(3) The responses of the individuals in the population sample to the items were recorded.

(4) The method of successive approximation was followed to test the hypothesis that the universe of items was scalable for the population in question. This method involved the following operations:

(a) For each item except item 10 weights of zero to four were assigned the five categories of response. Item 10 offered only three possible responses which were weighted from zero to two. The weights were assigned so as to give a high score to the individual who responded favorably to fringe residence.

(b) Total scores of zero to 40 were computed by summing the weights of an individual's responses.

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[1] See p. 24, note 33, for a bibliography of pertinent sources.

[2] Louis Guttman, "A Basis for Scaling Qualitative Data," *American Sociological Review,* IX (1944), 143.

[3] Cf. Louis Guttman, "The Cornell Technique for Scale and Intensity Analysis," in C. West Churchman et al., *Measurement of Consumer Interest* (Philadelphia, 1947), pp. 61-63, *passim.*

(c) The schedules were rearranged into rank order according to total scores.

(d) A table was constructed, with each column representing a response category of an item and each row a person with a specified total score.

(e) On this table were then recorded the responses of each person to each item. The responses to each item of the person with the highest score were entered in the first row by placing check marks in the appropriate columns. This was continued for each person until the table comprised a complete record of all the data.

(f) Examination of this record revealed that these data were not scalable at this stage. That is, it was not true that a person with a given total score always ranked higher on an individual item than persons with lower scores.

(5) Because of this apparent lack of scalability a second approximation was attempted.

(a) Where for two or more adjacent columns the checkmarks seemed to "intertwine," these columns were combined.

(b) As the results of the combining of categories the various items now offered only two response possibilities. These responses were assigned weights of zero and two.

(c) A total score based on these new weights was computed for each person.

(d) The schedules were rearranged into rank order based on the new total scores.

(e) The coefficient of reproducibility was computed. This involved determining the cutting points in the rank order of the various persons which separate them according to the categories in which they would fall if this had been a perfect scale. The total number of errors (i.e., the number of times that individuals with a given rank-order score fall in categories other than those indicated by that score) was expressed as a percentage of the total number of responses (i.e., the number of response categories times the number of persons). This coefficient of reproducibility indicates the degree of error which would be made in reproducing from a person's rank-order score his responses to each item.

To be considered a scale the pattern of responses as arranged in the table just described must be of a particular kind. First, it must be possible to reproduce from the individual's rank-order score the responses made to each item in the schedule and to reproduce them within an acceptable margin of error. Second, since the reproducibility of an item

cannot be less than its modal frequency, the frequencies of some of the items must be uniformly distributed among the categories. The rule has been set up that in no case may a category have more error than nonerror.

In the earlier work on scaling qualitative data, the standard of accuracy in reproducing item responses from total scores was 85 per cent. More recently it has been found desirable to aim for reproducibility of 90 per cent.[4] In the present case the sample of 100 cases showed a reproducibility of 87 per cent, while a second sample of 100 cases drawn from the 664 completed schedules in the larger study showed a reproducibility of 86 per cent. The RURP scale then is actually only a quasi-scale in terms of the more rigorous definition of scalability. It is felt, however, that reproducibility is sufficiently high to place individuals in rank-order positions with a degree of accuracy satisfactory for this study.

The ten statements which were selected as a sample of all possible statements regarding residence in the rural-urban fringe were the following. Possible responses and the corresponding weights are also shown.

(1) (a) On the whole, how do you like the suburban area as a place to live?
very much$_4$....., quite well$_3$....., all right, passable$_2$....., not very well$_1$....., not at all$_0$.....

(b) How strongly do you feel about this?
very strongly$_3$....., quite strongly$_2$....., somewhat strongly$_1$....., not strong at all$_0$.....

(2) (a) Some people complain that living outside town means being cut off from friends and social activities. To what extent do you agree with this complaint?
completely agree$_0$....., agree for the most part$_1$....., undecided$_2$....., disagree for the most part$_3$....., completely disagree$_4$.....

[4] There were at least four reasons for accepting as low as 85 per cent reproducibility (the precise value of 85 per cent rather than, say, 84 per cent or 86 per cent is of course arbitrary): (1) A per cent not lower than this implies that the vast majority of the characteristics of the persons with respect to the area can actually be reproduced from a simple rank order; (2) it has stability with respect to sampling of items and sampling of persons; (3) for external purposes of prediction, the correlation of any outside variable with the rank order cannot deviate much from the multiple correlation of that outside variable on the entire area; (4) areas are actually found in practice which do have this reproducibility or higher, so that use of many areas in practice need not await development of theory and techniques for handling nonscalable areas. Recent work on the intensity function suggests that it is desirable to be more rigorous with respect to error, and to raise the acceptable minimum for reproducibility to about 90 per cent. It has been found that items which theoretically should be intercorrelated—but which should theoretically definitely not scale—in some cases formed a pattern with 85 per cent reproducibility. This implies that 85 per cent allows too much leeway for more than one variable to operate in the pattern. Furthermore, 90 per cent insures greater sampling stability. Louis Guttman, "Questions and Answers about Scale Analysis," July 24, 1945, mimeographed, p. 4.

(b) How strongly do you feel about this?
very strongly$_3$....., quite strongly$_2$....., somewhat strongly$_1$....., not strong at all$_0$.....

(3) (a) It is sometimes said that the suburbs are far better than large towns or cities as a place for rearing children. Do you agree or disagree with this?
completely agree$_4$....., agree for the most part$_3$....., undecided$_2$ ....., disagree for the most part$_1$....., completely disagree$_0$.....

(b) How strongly do you feel about this?
very strongly$_3$....., quite strongly$_2$....., somewhat strongly$_1$....., not strong at all$_0$.....

(4) (a) Some people say that, taking everything into consideration, a person gets more for his money buying a house in town than he does buying a house outside of town. Do you agree or disagree with this idea?
completely agree.....$_0$, agree for the most part$_1$....., undecided$_2$....., disagree for the most part$_3$....., completely disagree$_4$.....

(b) How strongly do you feel about this?
very strongly$_3$....., quite strongly$_2$....., somewhat strongly$_1$....., not strong at all$_0$.....

(5) (a) Some people living outside of town say they envy city dwellers. Others say they feel sorry for city dwellers. Would you say that you feel sorry for city dwellers, envy them, or haven't ever thought about it?
envy them very much$_0$....., sometimes envy a little$_1$....., have not thought about it or uncertain$_2$....., sometimes feel a little sorry$_3$....., often feel quite sorry$_4$.....

(b) How strongly do you feel about this?
very strongly$_3$....., quite strongly$_2$....., somewhat strongly$_1$....., not strong at all$_0$.....

(6) (a) To what extent do you agree or disagree with those who say that people living in large towns or cities get a lot more fun out of life than those living outside town?
agree completely $_0$....., agree for the most part$_1$....., undecided$_2$....., disagree for the most part$_3$....., completely disagree$_4$.....

(b) How strongly do you feel about this?
very strongly$_3$....., quite strongly$_2$....., somewhat strongly$_1$....., not strong at all$_0$.....

(7) (a) Do you agree or disagree with the idea that, as compared with suburban dwellers, people living in cities miss out on many of the worthwhile things in life?
agree completely$_4$....., agree for the most part$_3$....., undecided$_2$....., disagree for the most part$_1$....., completely disagree$_0$.....

(b) How strongly do you feel about this?
very strongly$_3$....., quite strongly$_2$....., somewhat strongly$_1$....., not strong at all$_0$.....

(8) (a) Do you agree or disagree that there is not a single advantage to be gained by living outside the city limits?
agree completely $_0$....., agree for the most part$_1$....., undecided$_2$....., disagree for the most part$_3$....., completely disagree$_4$.....

(b) How strongly do you feel about this?
very strongly$_3$....., quite strongly$_2$....., somewhat strongly$_1$....., not strong at all$_0$.....

(9) (a) Do you agree or disagree that must families living in town would be better off if they moved out into the suburban area?
agree completely$_4$....., agree for the most part$_3$....., undecided$_2$....., disagree for the most part$_1$....., disagree completely$_0$.....

(b) How strongly do you feel about this?
very strongly$_3$....., quite strongly$_2$....., somewhat strongly$_1$....., not strong at all$_0$.....

(10) (a) If you found yourself forced to move and there were houses easily available throughout the Eugene-Springfield area, would you most rather move into town or remain in the suburban area?
move into town$_0$....., undecided$_1$....., remain in the suburban area$_2$.....

(b) How strongly do you feel about this?
very strongly$_3$....., quite strongly$_2$....., somewhat strongly$_1$....., not strong at all$_0$.....

Intensity Analysis. One of the important problems related to the use of scales is that of separating "favorable" individuals from "unfavorable" ones in terms of the total scores on the scale. To achieve this goal with the respondents to the RURP scale the "two-part technique"[5] of intensity was followed. The following operations were involved:

(1) Intensity scores were established for each of the 200 schedules selected as a sample of all completed schedules.

(a) At the time the RURP scale was being constructed, each question was given a second part concerned with the intensity with which the attitude was expressed in the first part.

(b) Weights were assigned to the four possible responses to part (b) of each question ranging from zero for the "not strongly at all" response to three for the "very strongly" response.

(c) Total intensity scores ranging from 0 to 30 were computed by summing the weights of the individual's responses to part (b) of the ten questions.[6]

(2) A scattergram of intensity and content was formed by relating the two scores for each of the 200 scales.

(a) A double-entry table was constructed with the intensity scores arranged along the vertical axis and the content scores along the horizontal axis.

(b) A line was drawn connecting the intervals in which the median intensity score lay for each content interval. This curve shows the relationship between intensity and content and should be U- or J-shaped.

(3) Although the curve for the 200 cases plotted showed a definite J-shape, the number of cases with low-content scores was too small to give stability to the curve. Therefore, 28 additional scales with low content scores were selected (without knowledge of the intensity scores) and added to the scattergram. The accompanying chart com-

[5] Louis Guttman, in *Measurement of Consumer Interest,* pp. 72, 83-84; Louis Guttman and Edward A. Suchman, "Intensity and a Zero Point for Attitude Analysis," *American Sociological Review,* XII (1947), 57-67.

[6] Responses to the intensity questions formed a quasi-scale.

prises these 228 cases, and thus is not a true representation of the proportion of all cases falling into each content.

The intensity analysis indicates that, in spite of considerable error, a content score of 6 is approximately the zero point. All persons scoring

TABLE XLV. THE RURAL-URBAN RESIDENTIAL PREFERENCE SCALE SCATTERGRAM OF INTENSITY AND CONTENT*

Intensity Scores	Content Scores 0	2	4	6	8	10	12	14	16	18	20	Total
30	..	..	1	..	..	..	..	1	..	4	6	12
29	..	..	..	..	..	..	1	..	..	..	..	1
28	..	..	..	..	..	..	1	..	..	1	1	3
27	..	..	..	..	..	1	..	1	2	6	1	11
26	1	..	..	..	1	1	..	..	2	1	2_m	8
25	1	1	..	..	..	1	..	2	3	4	1	13
24	..	1	..	..	..	1	1	2	3	4_m	1	13
23	..	..	..	..	..	..	1	2	2	3	1	9
22	..	..	1	2	..	1	1	1	..	2	1	9
21	..	..	1	..	..	4	1	2	8_m	3	3	22
20	..	..	1	..	..	..	2	3	7	2	..	15
19	1_m	1	..	..	2	1	3	6_m	3	2	1	20
18	..	..	..	..	..	1	..	3	1	4	..	9
17	..	1	..	1	3	1	1_m	2	2	2	..	13
16	..	..	..	..	..	1_m	1	2	..	1	..	5
15	..	1_m	2	1	1	3	5	1	2	1	..	17
14	..	..	--$_m$	..	2_m	4	1	1	..	..	..	8
13	..	..	..	..	..	..	1	..	..	..	..	1
12	1	..	1	..	..	1	..	..	..	..	..	3
11	..	..	1	--$_m$	..	1	1	2	..	..	..	5
10	..	..	1	..	1	..	1	..	..	..	..	3
9	..	..	1	..	2	..	1	1	..	..	..	5
8	..	..	..	1	..	..	..	..	..	..	..	1
7	..	1	..	1	..	1	..	..	1	..	..	4
6	1	..	..	..	1	..	..	..	..	..	..	2
5	..	..	..	1	..	1	..	..	..	..	..	2
4	..	2	1	..	1	..	..	..	..	..	..	4
3	..	..	1	1	..	2	1	..	..	..	1	6
2	..	1	..	..	3	..	..	..	..	..	..	4
	5	9	12	8	17	26	24	32	36	40	19	228

"m" indicates median category of column.

lower than 6 may therefore be spoken of as unfavorable to living in the suburbs, while those with scores greater than 6 may be considered favorable.[7]

The Reliability of the RURP Scale. The reliability of a schedule or scale has to do with the extent to which it gives the same or highly sim-

[7] Since only 17 males and 36 females receives scores of 6 or less, in the actual analysis RURP scores were arbitrarily divided into three categories of somewhat equal size in order to avoid extremely small cell frequencies.

ilar results when reapplied to the same or highly similar phenomena.[8] According to the available literature, little or nothing has been done to test the reliability of scales constructed by the Cornell technique. In the present study, about two months after the original contact, duplicate RURP scales were mailed out to a sample of 100 of the respondents along with stamped, self-addressed return envelopes and a letter requesting continued cooperation. Fifty-two schedules were returned. The test-retest reliability for these pairs of scores was somewhat low, +.54 with a standard error of .14.[9]

The test-retest method of measuring reliability depends for its accuracy on two factors: (1) sufficient time must have elapsed since the first test so that there will not be a carryover to the second taking of the test; (2) the time elapsing between the test and retest must not be so long that a shift in attitude actually occurs. In the latter case a low value test-retest coefficient could indicate a differential shift in the attitudes being measured. There is some evidence that this partially explains the size of the computed value of *r*. A noticeable shift in scores took place and, as might have been anticipated in view of changing conditions, 27 or 72.9 per cent of the 37 changes in total scores were the result of more favorable responses.[10] While a uniform shifting of total scores in one direction would not result in a small *r*, differential shifting as in this case would have that effect.[11] This being the case, it is possible that the test-retest coefficient of .54 may be an indication of the scale's sensitivity to differential shifts in attitude as much as it is a reflection of lack of reliability.

The Validity of the RURP Scale. Construction of a scale according to the Cornell technique is independent of any question of whether the scale "measures what it claims to measure," since the operations are

[8] George A. Lundberg, *Social Research* (New York, 1946), p. 198. Also see John Gray Peatman, *Descriptive and Sampling Statistics* (New York, 1947), pp. 470-478.

[9] Testing the hypothesis that the *r* of the universe is zero, the formula is: $\sigma_r = \frac{1}{N-1}$ A value of σ_r=.14 in such a case indicates that the probability of obtaining an *r* of .54 is .0011. We can thus reject the hypothesis. Hagood, *op. cit.*, pp. 617-618.

[10] At the time interviewing was begun for this study attitudes of fringe residents toward living in the fringe may have been considerably depressed. As mentioned earlier, an unusually bad winter with prolonged snow and cold was being climaxed by a flood of the Willamette, so that in certain areas it was actually impossible to reach the designated houses until the water receded. Many other roads were almost impassible. Two months later, at the time of the retest, the area had been experiencing an entire month of unusually fine spring weather, roads were being repaired, and gardening activities were in full swing. The mean score of the 52 persons sending in a duplicate schedule shifted from 14.6±.63 to 15.3±.58.

[11] While the majority of shifts were to adjacent scores, shifts as great as ten score points occurred.

concerned only with the extent to which individuals respond to a series of items in such a way as to make it possible to reproduce their responses on the basis of their total score. However, it would ordinarily be of analytical utility to have total scores on such a scale show rather high correlation with other variables, in order that correlates of the phenomenon being analyzed would be established. If certain of these correlating variables can be thought of as criteria of the behavior being observed, then the degree of correlation between such criteria and the total scale scores becomes a measure of the validity of the scale. Where these "criteria" are common-sense impressions, however, absence of a high degree of correlation cannot be considered conclusive proof of lack of validity.[12] Certain doubts created as the result of such unrelatedness may be substantiated or refuted by later evidence of the scale's validity.

In the case of the RURP scale, most observers would accept as evidence of the scale's validity information showing that those individuals receiving low scores were more likely than high-scoring individuals to leave the fringe area for urban residence. While such data are not available, two sets of responses elicited from respondents independently of the RURP scale have some utility as criteria of adjustment to residence in the fringe. For each individual scored on the RURP scale there is available (1) the interviewee's rating of attitude toward residence in the fringe area and (2) the interviewee's evaluation of where that person would most like to live if housing were equally available throughout the Eugene-Springfield area.[13] Neither of these is a criterian in any absolute sense, and lack of correlation between respondent's evaluations and scale scores may result from errors in the respondent's rating as much as from weaknesses of the scale.

TABLE XLVI. RATING BY INTERVIEWEE OF SATISFACTION OF FAMILY MEMBERS WITH RESIDENCE IN THE RURAL-URBAN FRINGE

	Males		Females	
Interviewee's Rating	Number	Per Cent	Number	Per Cent
Very happy, enthusiastic	522	65.4	497	60.8
Somewhat or quite satisfied	192	24.1	191	23.4
Indifferent, uncertain	35	4.4	51	6.2
Somewhat or quite dissatisfied	37	4.6	60	7.3
Very unhappy, dissatisfied	12	1.5	18	2.2
Total	798	100.0	817	99.9

[12] Lundberg, *op cit.*, pp. 300-301.

[13] For housewives these are ordinarily self ratings, for males they are most frequently ratings by the housewife interviewed.

[14] Since most females were self-rated, reluctance to admit failure to adjust may be an influential factor here. Otherwise, in view of our other findings, we would expect a somewhat lower proportion of females to be classified as enthusiastic about fringe residence.

Seven hundred and ninety-eight males, heads of houses except in a negligible number of cases, and 817 females, ordinarily the wives of these males, were rated by the person interviewed in terms of their degree of satisfaction with fringe residence. As shown in Table XLVI, nearly two-thirds of the males were classified as very happy and enthusiastic, while three-fifths of the females were placed in this category.[14]

TABLE XLVII. RATING BY INTERVIEWEE OF SATISFACTION WITH FRINGE RESIDENCE RELATED TO THE SEX AND RURP SCORE OF FAMILY MEMBER RATED

Interviewee's Rating	RURP Scores 0 - 12	14 - 16	18 - 20	Total
	MALES			
Somewhat, quite or very enthusiastic, or happy	63 (−)	92 (+)	97 (+)	252
Indifferent, somewhat, quite, or very dissatisfied, or unhappy	15 (+)	9 (−)	1 (−)	25
Total	78	101	98	277
	FEMALES			
Somewhat, quite or very satisfied, enthusiastic	93 (−)	134 (+)	86 (+)	313
Indifferent; somewhat, quite, or very dissatisfied, or unhappy	57 (+)	8 (−)	4 (−)	69
Total	150	142	90	382

Males: $\chi^2=17.53$ $P<.05$
Females: $\chi^2=66.42$ $P<.05$

Algebraic signs (+, −) indicate the direction of deviation from theoretical frequencies.

In order to test the extent to which these subjective ratings are associated with RURP scores, the two sets of data are arranged in Table XLVII. Data are available for 277 males and 382 females.

Chi square for both males and females has a computed value well

TABLE XLVIII. RATING BY INTERVIEWEE OF CHANGES IN RESIDENCE LOCATION DESIRED BY FAMILY MEMBER

Interviewee's Rating	Males Number	Males Per Cent	Females Number	Females Per Cent
Remain in same house	502	63.7	512	62.7
Move elsewhere in suburban area	126	15.8	127	15.5
Move inside Springfield	10	1.3	11	1.3
Move inside Eugene	83	10.4	106	13.0
Move farther away from town	59	7.4	49	6.0
Don't know, indifferent	4	0.5	4	.0
Leave area entirely	7	0.9	8	1.0
Total	797	100.0	817	100.0

above the 5.99 required with two degrees of freedom and independence of scores and ratings can be rejected.

Thus RURP scores are significantly related to subjective ratings, and the lack of a closer relationship may result from the weaknesses of the criterion rather than the scale. A similar conclusion is reached when we examine our second criterion, the interviewee's rating of the family member's most valued residence location.

While it may merely reflect a tendency for wives to rate their husbands similar to the way they rate themselves, this distribution of ratings does not reflect in any significant way the tendency of wives to be less enthusiastic than their husbands about fringe residence. If we accept these subjective ratings, however, as a criterion of adjustment to location of residence in the fringe, a significant positive relationship is to be observed between these ratings and scores on the RURP scale. As might be expected, where a husband is rated as desiring to move into town, both the husband and his wife tend to get low RURP scores.

TABLE XLIX. RATING BY INTERVIEWEE OF CHANGES IN RESIDENCE DESIRED RELATED TO THE SEX AND RURP SCORE OF THE FAMILY MEMBER RATED

Interviewee's Rating	RURP Scores 0 - 12	14 - 16	18 - 20	Total
MALES				
Remain in same house, move elsewhere in suburbs or farther away from town	(—)	92 (+)	94 (+)	249
Move into Eugene or Springfield	14 (+)	9 (—)	3 (—)	26
Total	77	101	97	275
FEMALES				
Remain in same house, move elsewhere in suburbs or farther away from town	105 (—)	125 (+)	83 (+)	313
Move into Eugene or Springfield	43 (+)	14 (—)	7 (+)	64
Total	148	139	90	377

Males: $\chi^2=11.46$ $P<.05$
Females: $\chi^2=25.44$ $P<.05$

Algebraic signs (+, —) indicate the direction of deviation from theoretical frequencies.

To be significant at the 5 per cent level chi square requires a value no smaller than 5.99 for a table such as this one. Thus it is permissible to reject the hypothesis of no relationship, and the relationship revealed substantiates the validity of the RURP scale.[15]

[15] Here as before ratings are predominantly those of housewives rating themselves and their husbands.

Appendix D

SCHEDULE

THE EUGENE-SPRINGFIELD SUBURBAN AREA SURVEY: 1949

If there is no one home:
(a) find out the best time to call
(b) fill in this information below
(c) put the address on the last page

1st visit: day.....time.....interviewer.....
call back: day.....time.....
2nd visit: day.....time.....interviewer.....
3rd visit: day.....time.....interviewer.....
comments.....

1. Schedule No.....
5. Area No.....
8. SSS.....
11. SPS.....
13. RURPS.....
15. Mle (1) Fmle (7) combination (9).....

16. What is this neighborhood usually called?.....

17. How long have you lived at this address? 17. 0 4 8

(0) less than six months	(4) 3 but less than 4 yrs.	1 5 9
(1) 6 mos. to 1 yr.	(5) 4 but less than 5 yrs.	2 6 x
(2) 1 but less than 2 yrs.	(6) 5 but less than 10 yrs.	3 7 *
(3) 2 but less than 3 yrs.	(7) 10 or more years	

18. Where was your home located just before moving to this address? 18. 0 4 8
(Give town or county in Oregon or state in U.S.)..... 1 5 9

(0) local suburban area	(6) Middle Atlantic	2 6 x
(1) adjacent urban area	(7) South Atlantic	3 7 *
(2) elsewhere in Oregon	(8) North Central	
(3) California	(9) South Central	
(4) Washington	(x) Mountain	
(5) New England	(*) Other	

19. Did you live outside town then or not?

(0) inside large city (100,000 or more)	(3) inside small town (under 10,000)	1 5 9
(1) inside medium city (50-100,000)	(4) outside town, non-farm	2 6 x
(2) inside small city (10-50,000)	(5) rural farm	3 7 *

20. How do you like living here compared with your last home? 20. 0 2 4

(0) much nicer, more desirable	(3) somewhat less nice	1 3 5
(1) somewhat nicer	(4) much less nice, much less desirable	
(2) about the same		

comment.....

21. Where was your home located on Dec. 7, 1941 (Pearl Harbor Day)?
(Give town or county in Oregon or state in U. S.)..... 21. 0 4 8
..... 1 5 9

(0) local suburban area	(6) Middle Atlantic	2 6 x
(1) adjacent urban area	(7) South Atlantic	3 7 *
(2) elsewhere in Oregon	(8) North Central	
(3) California	(9) South Central	
(4) Washington	(x) Mountain	
(5) New England	(*) Other	

22. Did you live outside town then or not? 22. 0 4 8

(0) inside large city (100,000 or more)
(1) inside medium city (50-100,000)
(2) inside small city (10-50,000)
(3) inside small town (under 10,000
(4) outside town, non-farm
(5) rural farm

1 5 9
2 6 x
3 7 *

23. What was the *one most important reason* you chose a home outside of town? (Do not hint) 23. 0 4 8

1 5 9
2 6 x
3 7 *

(0) could not get a place in town
(1) better for children
(2) freedom from bldg. and use regulation
(3) room for gardening
(4) less congested, more room
(5) lower taxes
(6) cheaper land
(7) lower rent
(8) near employment or business
(9) cleaner
other.....

23a. What other reasons did you have for choosing a house outside town? (list below)

.....

.....

.....

24. What was the one *most important reason* you chose this site in preference to some other site outside the city limits? (Do not hint) 24. 0 4 8

1 5 9
2 6 x
3 7 *

(0) best buy at time
(1) liked the house
(2) close to school
(3) desirable lot size
(4) liked looks of neighborhood
(5) public transportation close
(6) close to town
(7) close to work
(8) only place available
other.....

24a. What other reasons did you have for choosing this particular site? (list below)

.....

.....

.....

25. How has living here in the suburbs lived up to your expectations? Would you say it is: 25. 0 4 8

1 5 9
2 6 x
3 7 *

(0) much better, much nicer, than expected
(1) somewhat nicer than expected
(2) about what expected
(3) somewhat less nice, less desirable than expected
(4) much less nice than expected, very disappointing

26. How much land do you have here? 26. 0 4 8

1 5 9
2 6 x
3 7 *

(0) less than half an acre
(1) ½ but less than 1 acre
(2) 1 but less than 6 acres
(3) 6 but less than 10 acres
(4) 10 or more acres

27. Are you renting or buying your home? 27. 0 2 4

1 3 5

(0) rented or leased
(1) buying (own but mortgaged)
(2) own free and clear
(3) other (specify).....

28. Owners only—What is the approximate value of your home at the present time? 28. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

(0) less than $500
(1) $500 - $999
(2) $1000 - $2499
(3) $2500 - $4999
(4) $5000 - $7499
(5) $7500 - $9999
(6) $10,000 - $12,499
(7) $12,500 - $14,999
(8) $15,000 - $17,499
(9) $17,500 - $19,999
(x) $20,000 and over
(*) not an owner

29. Renters only—What is the approximate rental that you pay monthly for this home? 29. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

(0) under $10
(1) $10 - $19
(2) $20 - $29
(3) $30 - $39
(4) $40 - $49
(5) $50 - $59
(6) $60 - $69
(7) $70 - $79
(8) $80 - $89
(9) $90 - $99
(x) $100 or more
(*) not a renter

30. How many rooms? (not including bathroom) 30. 1 5 9 / 3 7

(1) one or two
(3) three or four
(5) five or six
(7) seven or eight
(9) nine or more

31. What facilities do you have at your disposal in case of fire? 31. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

(0) no water under pressure; no organized group
(1) household water under pressure; no organized group
(2) household water under pressure; volunteer group
(3) fire hydrant; no fire department
(4) fire hydrant and municipal fire department
(5) other combination.....

32. Does your house have complete bathroom plumbing? 32. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

(0) bathtub or shower but no inside toilet
(1) inside toilet but no bathtub or shower
(2) neither bathtub or shower nor inside toilet
(3) both bathtub or shower and inside toilet

33. What type of water service do you have? 33. 0 2 4 / 1 3 5

(0) water under pressure—water district
(1) water under pressure—municipal owned
(2) water under pressure—private gravity system
(3) well with power pump and pressure tank
(4) well with hand pump
(5) other.....

34. What facilities do you have for sewage disposal? 34. 0 2 4 / 1 3

(0) none
(1) sewage service
(2) septic tank
(3) cesspool
(4) privy

35. What facilities do you have for light and power 35. 0 2 4 / 1 3

(0) Electricity—municipally owned
(1) electricity—privately owned system
(2) private electric generator plant
(3) oil lamps
(4) other.....

36. What fuel do you use for cooking? 36. 0 3 6 / 1 4 / 2 5

(0) electric current—municipal system
(1) electric current—privately owned system
(2) gas—privately owned
(3) wood
(4) oil stove
(5) other.....
(6) any combination

37. What fuel do you use for heating? 37. 0 2 4 1 3 5

(0) oil (3) coal
(1) wood (4) other.....
(2) sawdust (5) combination

38. (Concerns husband or chief breadwinner) Where do you (does he) have to go each day to work? (If varies, use last working day) 38. 0 3 6 1 4 2 5

(0) works at home usually (4) elsewhere in suburbs
(1) into Eugene (5) farther out from town
(2) into Springfield (6) retired or financiallly independent
(3) in Glenwood

39. (Concerns husband or chief breadwinner) How much time do you (does he) spend daily going to and from work? (If varies, use average for last week) 39. 0 3 6 1 4 2 5

(0) work at home or financially independent (3) 30 - 40 minutes
(1) less than 15 minutes (4) 45 - 59 min.
(2) 15 - 29 minutes (5) 1 - 1½ hrs.
(6) more than 1½ hrs.

40. (Concerns wife) When you go (she goes) down town to attend a meeting or do some shopping how do you usually go? 40. 0 3 6 1 4 7 2 5

(0) never go (4) bus
(1) ride in car with husband going to work (5) walk
(6) bicycle
(2) have car available during day (7) other.....
(3) ride with neighbor or friend

41. (Concerns wife) On an ordinary weekday afternoon if you want (she wants) to go down town shopping or visiting how long does it take you to reach the downtown area travelling as you usually do? 41. 0 2 4 1 3 5

(0) have no way to go in afternoons (3) 30 - 44 minutes
(4) 45 - 59 minutes
(1) less than 15 minutes (5) 60 or more minutes
(2) 15 - 28 minutes

42. How far is it to the main road into town? (town you usually go to) 42. 0 2 4 1 3

(0) located on main road (3) ½ but less than 1 mile
(1) less than ¼ mile (4) 1 mile or more
(2) ¼ but less than ½ mile (5) don't know

43. How far is it to the nearest bus line into town (town you usually go to)? 43. 0 2 4 1 3

(0) located on bus line (3) ½ but less than 1 mile
(1) less than ¼ mile (4) 1 mile or more
(2) ¼ but less than ½ mile If "don't know" interviewer estimate

44. What goods and services can you have delivered here without extra charge? 44. 0 4 8 1 5 9 2 6 x 3 7 *

(0) none (6) list other combinations
(1) milk
(2) milk and groceries .....
(3) groceries and laundry .....
(4) milk, groceries and laundry
(5) mail, fuel, milk, grocery and laundry

45. Which of the following are *always available* for getting in touch with people in town? 45. 0 2 4 1 3 5

(0) telephone
(1) automobile
(2) bus within ¼ mile
(3) telephone and automobile
(4) telephone and bus
(5) automobile, bus, and telephone

46. Do you think your friends would visit you more frequently if you lived in town? 46. 0 2 4 1 3

(0) definitely yes, certain they would
(1) probably yes, think so
(2) uncertain, don't know
(3) probably not
(4) definitely not, certain they would not

47. (Concerning husband) How do you (does he) feel *now* about living outside the city limits as compared with living in town? 47. 0 2 4 1 3

Would you say you are:

(0) very happy, enthusiastic, much prefer country
(1) quite or somewhat happy, satisfied
(2) indifferent, undecided, doesn't make any difference
(3) somewhat or quite dissatisfied
(4) very dissatisfied, unhappy, much prefer city

comments:.....

48. (Concerns wife) Same question (No. 47) 48. 0 2 4 1 3

(0) very happy, enthusiastic, much prefer country
(1) quite or somewhat satisfied
(2) indifferent, undecided, doesn't make any difference
(3) somewhat or quite dissatisfied
(4) very dissatisfied, unhappy, much prefer city

comments:.....

49. (Concerns husband) Taking everything into consideration, in the future if houses are equally available throughout this general Eugene-Springfield area in what part of that area would you most like to live? 49. 0 2 4 1 3 5

(0) remain in same house
(1) move to other site in suburbs*
(2) move inside Springfield city limits
(3) move inside Eugene limits
(4) move farther away from town

*List neighborhood.....

50. (Concerns wife) Same question (No. 49) 50. 0 2 4 1 3 5

(0) remain in same house
(1) move to other site in suburbs*
(2) move inside Springfield city limits
(3) move inside Eugene limits
(4) move farther away from town

*List neighborhood.....

51. Which members of the family get the greatest pleasure and satisfaction out of living outside the city limits? Write in reason if possible. 51. 0 4 7 1 5 8 2 6 9

(0) no one.....
(1) husband.....
(2) wife.....
(3) children.....
(4) husband and wife.....
(5) husband and children..... 3
(6) wife and children.....
(7) all members equally.....
(8) impossible to say.....
comment.....

52. Which members of the family feel the most inconvenienced and dissatisfied at living outside the city? Write in the reason if possible. 52. 0 4 7 / 1 5 8 / 2 6 9

(0) no one
(1) husband
(2) wife
(3) children
(4) husband and wife
(5) husband and children 3
(6) wife and children
(7) all members equally
(8) impossible to say
comment

53. In general, what is the one greatest discomfort or inconvenience that your family suffers as a result of living outside the city limits? 53. 0 3 6 / 1 4 7 / 2 5

(0) none
(1) lack of transportation
(2) too far to town
(3) too far to school
(4) too far to work
(5) isolated
other: (list only one)

54. Where does the family that you most frequently visit with live? 54. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

(0) never visit
(1) same neighborhood
(2) in Eugene
(3) in Springfield
(4) elsewhere in suburban area (name the neighborhood)

55. How do you feel about the neighborliness of other people living around here? 55. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

(0) very friendly, very neighborly
(1) more friendly than average
(2) just like people everywhere else, about average
(3) less friendly than average
(4) very unfriendly, clannish
(5) too snoopy, prying
comment

56. Have you noticed any undesirable change taking place in this neighborhood? If "yes," what is it? 56. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

57. What do you think should be done about it? 57. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

58. Husband's age 58. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

(0) deceased or divorced
(1) under 20
(2) 20 - 29
(3) 30 - 39
(4) 40 - 49
(5) 50 - 59
(6) 60 - 69
(7) 70-79
(8) don't know
(9) refused

59. Wife's age 59. 0 4 7 / 1 5 8 / 2 6 9 / 3

(0) deceased or divorced
(1) under 20
(2) 20 - 29
(3) 30 - 39
(4) 40 - 49
(5) 50 - 59
(6) 60 - 69
(7) 70 - 79
(8) don't know
(9) refused

60. How many members are there in your immediate family? (Parents and children wherever living plus other individuals related or not related now sharing intimate family life. Not boarders, etc.) 60. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

(0) one
(1) man and wife only
(2) the parent and one child
(3) three (any combination)
(4) four
(5) five
(6) six
(7) seven
(8) eight
(9) nine
(x) more than nine

61. How many people are there ordinarily living in this house? (Include all those who ordinarily occupy house including servants, lodgers, temporarily absent family members, etc.) 61. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

(1) one
(2) two
(3) three
(4) four
(5) five
(6) six
(7) seven
(8) eight
(9) nine
(x) ten
(*) eleven
other.....

62. Number of children of pre-school age (under six) living in home? 62. 0 2 / 1 3

(0) none
(1) one
(2) two
(3) three or more

63. Number of children in grade school and living at home? 63. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

(0) none
(1) one attending school in Springfield
(2) one, attending school in Eugene
(3) one, attending school outside of city
(4) two or more, attending school in Eugene
(5) two or more, attending school in Springfield
(6) two or more, attending school outside city
(7) two or more, some other combination

64. Means of reaching grade school? 64. 0 3 6 / 1 4 7 / 2 5

(0) not appropriate
(1) walking
(2) private automobile
(3) school bus
(4) city bus
(5) bicycle
(6) other

65. Children in high school and living at home? 65. 0 4 8 / 1 5 9 / 2 6 x / 3 7 *

(0) none
(1) one attending school in Springfield
(2) one, attending in Eugene
(3) one, attending school outside of city
(4) two or more, attending school in Eugene
(5) two or more, attending school in Springfield
(6) two or more, attending school outside city
(7) two or more, some other combination

66. Means of reaching high school? 66. 0 3 6 / 1 4 7 / 2 5

(0) not appropriate
(1) walking
(2) private automobile
(3) school bus
(4) public bus
(5) bicycle
(6) other

67. How many other children and what are they doing now? 67. 0 3 6 / 1 4 7 / 2 5

(0) none
(1) one gainfully employed
(2) two or more gainfully employed
(3) one, in college
(4) two or more, in college
(5) other.....

68. Was the husband's childhood spent in the country or in the city? 68. 0 4 8
(0) entirely in the country (3) mainly in town 1 5 9
(1) mainly in the country (4) entirely in town 2 6 x
(2) evenly divided between the two (5) don't know 3 7 *
other.....

68. Was the wife's childhood spent in the country or in the city? 69. 0 4 8
(0) almost entirely in the country (3) mainly in town 1 5 9
(1) mainly in the country (4) almost entirely in town 2 6 x
(2) evenly divided between the two (5) don't know 3 7 *
other.....

70. Did you have a garden this last summer? (or chickens, fruit, etc.) 70. 0 4 8
1 5 9
(0) vegetables, fruit, berries (any one of them, or all) 2 6 x
(1) vegetables, fruit, berries and chickens 3 7 *
(2) vegetables, fruit, berries, chickens and rabbits
(3) vegetables, fruit, berries and pigs
(4) vegetables, fruit, berries, pigs and chickens
(5) vegetables, fruit, berries, horse and chickens
(6) vegetables, fruit, berries, pasture and stock (with or without chickens)
(7) no garden
other.....

71. Did you sell any products (vegetables, nuts, fruit, eggs, livestock, etc.) from your land during this last year? If yes, about what proportion of your total income for last year? 71. 0 4 8
1 5 9
2 6 x
3 7 *
(0) none (3) ½ but less than ¾ of total income
(1) less than ¼ total income
(2) ¼ but less than ½ of total income (4) ¾ or more of total income

72. Had you ever had farming or gardening experience before you moved to this address? 72. 0 2 4
(0) wife and husband none (2) wife none, husband some
(1) wife some, husband some (3) wife and husband both some

73. Do you expect to have a garden next year? More or less than last summer? 73. 0 2 4
1 3 5
(0) none (3) more than last year
(1) about the same as last year (4) undecided
(2) less than last year

Ask first for organizations in Eugene, second, for those in Springfield, third, those in the local neighborhood, and last, those in other suburban areas. Do not count organizations restricted to other areas of country. In column 2 under location put one of the following: *Eugene, Springfield, Local* (neighborhood), or *Other* (suburban area). In the last four columns "yes" can be indicated with a clearly discernible check mark. Score according to directions before handing in.

HUSBAND

Name of Organization	1. Location	2. Attendance	3. Financial Contributions	4. Member of Committees (Not Name)	5. Offices Held
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
Totals					

WIFE

Name of Organization	1. Location	2. Attendance	3. Financial Contributions	4. Member of Committees (Not Name)	5. Offices Held
1.					
B.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
Totals					

NOW HAND YOUR RESPONDENT THE SEPARATE ATTITUDE SCALE. Be sure you have an extra pencil to loan at this point. Explain how the attitude scale is to be filled out. THEN FILL OUT ALL THE ITEMS ON THIS PAGE that you can while the respondent works on the attitude scale. Where your own observations are not enough you can ask for information later.

PART I

Make a check mark for "yes" or write in the number of items where indicated.

1. Floor, softwood (8.4) . . . .
   hardwood (13.9) . . . .
2. Large rug (5.6) . . . .
3. Windows with drapes
   (each window 3.6) . . . .
4. Fireplace with 3 or more
   utensils (34.3) . . . .
5. Artificial light,
   electric (12.0) . . . .
   kerosene (—3) . . . .
6. Library table (—1) . . . .
7. Armchairs (4.1) . . . .
8. Piano bench (5.2) . . . .
9. Desk: personal-social (2.3) . .....
10. Bookcase* with books
    (each 3.4) . . . .
11. Sewing machine (2) . . . .
12. Couch pillows (0.7 each) . . . .
13. Alarm clock (—5.3) . . . .
14. Periodicals† (1.6 each) . . . .
15. Newspapers† (7.7 each) . . . .
16. Telephone† (24.4) . . . .
17. Radio† (8.0) . . . .

Score on Part I.....

PART II

Check the phrases that describe the "general impression" or "aesthetic atmosphere" of the living room. Only one response is made for each question except that both "a" and "b" may be checked in question 18.

18. Cleanliness of room and furnishings
    a. Spotted or stained (—19.4) . . . .
    b. Dusty (—9.7) . . . .
    c. Spotless and dustless (+9.7) . . . .

19. Orderliness of room and furnishings
    a. Articles strewn about in disorder (—19.7) . . . .
    b. Articles in place or in usable order (+19.7) . . . .

20. Condition of repair of articles and furnishings
    a. Broken, scratched, frayed, ripped, or torn (—16.3) . . . .
    b. Articles or furnishings patched up (—8.1) . . . .
    c. Articles or furnishings in good repair and well kept (+8.1) . . ..

21. Record your general impression of good taste
    a. Bizarre, clashing, inharmonious, or offensive (—5.4) . . . .
    b. Drab, monotonous, neutral, inoffensive (—2.7) . . . .
    c. Attractive in a positive way, harmonious, quiet and restful (+2.7).....

Score on Part II.....

Total score (I plus II).....

---

* to be recorded if in another room, except professional library of doctor, lawyer, clergyman, teacher, etc.

† to be recorded if in another room.

74. What was the main activity of the head of the house *last week?* 74. 0 2 4
(0) working (3) going to school 1 3 5
(1) looking for work other.....
(2) keeping house

75. What was the main activity of the wife last week? 75. 0 2 4
(0) working (3) going to school 1 3 5
(1) looking for work other.....
(2) keeping house

76. What kind of work does the head of the house do?..... 76. 0 4 8
(0) professional or semiprofessional 1 5 9
(1) farmers and farm managers 2 6 x
(2) proprietors, managers and officials (except farm) 3 7 *
(3) clerical, sales
(4) craftsmen, foremen, and skilled
(5) operatives
(6) service, excluding domestic service
(7) domestic service
(8) farm laborer
(9) laborers, unskilled, common (except farm laborers)
(x) military service
(*) retired or financially independent

77. CARD QUESTION: Here is a rough scale with several income classes marked on it. Estimating the *entire family income* for the *past year,* could you tell me approximately where your family comes on the scale? This information will be kept entirely confidential. 77. 0 4 8 1 5 9 2 6 x 3 7 *

(0) refuse
(1) less than $1000
(2) $1,000 - $1,999
(3) $2,000 - $2,999
(4) $3,000 - $3,999
(5) $4,000 - $4,999
(6) $5,000 - $7,499
(7) $7,500 - $9,999
(8) $10,000 - $14,999
(9) $15,000 - $19,000
(x) $20,000 and over

78. How many wage earners were there in the family last year? 78. 0 4 8
(0) none (3) three 1 5 9
(1) one (4) four 2 6 x
(2) two (5) five 3 7 *

NOW CHECK YOUR SCHEDULE CAREFULLY. BE SURE THAT YOU HAVE LEFT NO QUESTION UNANSWERED IF IT APPLIES AT ALL TO THIS INTERVIEW. Your care at this point will save a great deal of difficulty later on.

Name of person interviewed:.....

Address.....

In case of RFD box numbers or houses without identifying addresses be sure to indicate the street or road and the approximate position in relation to crossroads, other houses, etc. This information is necessary for checking purposes. IT WILL NOT BE USED IN ANY REPORT ON THE SURVEY'S FINDINGS. It is on the bottom of the page so that it can be torn off and destroyed once the schedule has been checked for omission or contradictions by the survey administrator.

Before going on to your next interview check one statement for each of the following questions:

79. Check the statement which in your opinion best describes the degree of isolation of this house. 79. 0 4 8 1 5 9 2 6 x 3 7 *

(0) maximum isolation; surrounded by wooded terrain or open fields, neighbor's house cannot be seen
(1) relatively isolated; one or more neighbor's house in view but all a block or more away.
(2) several neighboring houses within easy view; separated by small fields or wide yards but definitely not isolated.
(3) minimum isolation; located in heavily settled neighborhood, neighbors as close as in town.

80. Check the statement which best describes the condition of this home. 80. 0 4 8 1 5 9 2 6 x 3 7 *

(0) an unpainted makeshift shack; definitely unfit for human habitation.
(1) inadequate, poorly constructed house; needs paint and/or repairs; little or no lawn or flowers.
(2) an adequate though not new or modern house; house, lawn and flowerbeds appear well kept up; workingman's home.
(3) good middleclass home; more than adequate, well kept up, well tended lawn and gardens.
(4) large, exceptionally well built, modern home; spacious, nicely landscaped lawns and gardens.

Signature
of interviewer.....class: Ecology.....

Date.....time..... Social Research 9.....

Social Research 10.....

KEEP CARD IN POCKET

Date Due

DUE	RETURNED	DUE	RETURNED